

*Vitaly Shevoroshkin
(ed.)*

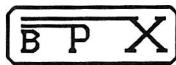
Explorations
in Language
Macrofamilies



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EXPLORATIONS IN LANGUAGE MACROFAMILIES

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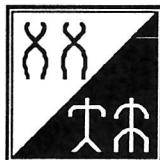
EXPLORATIONS IN LANGUAGE MACROFAMILIES

Materials from the first International Interdisciplinary
Symposium on Language and Prehistory
Ann Arbor, 8-12 November, 1988

edited

by

Vitaly Shevoroshkin



BPX 23

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BOCHUM PUBLICATIONS IN EVOLUTIONARY CULTURAL SEMIOTICS

EDITORIAL

BPX is a series of monographs or collections of papers (also resulting from pertinent colloquia) that are published at irregular intervals. The series is designed to bring into focus the interaction of nature and culture. Particular emphasis will be given to the overall ideas of **integration** and **focus**. Communicative processes will be considered to be integrated parts of cosmogenesis, biogenesis, psychogenesis etc. The fundamental processes underlying all levels of evolution are assumed to be identical. Not unlike most other sciences, **evolutionary semiotics** is considered to share in an ultimately unitary and indivisible reality. Its specificity is derived solely from its focus on a particular level of evolution: although seemingly obvious, the exact nature of this inevitable bias (human or proto-human predicament) continues to deserve concentrated attention. The prototypical structure for this is considered to be **culture**: a phenomenon whose true integrative potentialities have not yet been fully discovered or explored. For a semiotics thus conceived, structure and process are not different phases of reality and/or sciences but rather mere faces of a unitary field. In the view of this series, then, any fruitful attempt at semiotic analysis will be based on premises of macro-integration - or **evolution** - and of micro-integration - or **culture**.

While it is the ambitious goal of this series to encourage interdisciplinary work on the nature of culture as outlined above, BPX will have to be content - especially in its initial stages - with more modest attempts at elucidating semiogenesis. In addition, most contributions will presumably be relatively specific, covering all possible areas of culture or proto-culture, with the desired unity or homogeneity - regarding aim and scope - largely confined to the background.

Bochum, December 1984

W. A. K.

ACKNOWLEDGEMENTS

I would like to thank the people and institutions who made this second collection of materials from our 1988 Ann Arbor *Symposium on Language and Prehistory* possible. Its preparation was funded by discretionary grants from the following branches of the University of Michigan, Ann Arbor: the Office of the Vice-President for Research; the Office of the Associate Dean for Research (College of Literature, Science, and the Arts); the Rackham School of Graduate Studies; and the Center for Russian and East European Studies. Grants were also given by the Northcote Parkinson Fund (President John Train), the University of Tennessee at Chattanooga, and Dr. Ralph Baldwin.

I am very grateful to Alex Eulenberg for proof-reading, re-typing, and re-formatting the various manuscripts and typescripts, and also for reworking my colleagues' sometimes enigmatic Slavicisms into a more understandable English. I also thank Jim Parkinson for his meticulous work in editing the Nostratic word list. Credit is also due to Joseph Shallert for translating the text and tables of V. Dybo's article 'V. M. Illich-Svitych and the Development of Uralic and Dravidian Linguistics', as well as preparing them for photo-offset reproduction; and to Larry Bogoslaw, for preliminary work on transcribing Dybo's comparative phonetic tables.

This volume could not have been compiled without them.

—V. S., Ann Arbor, July, 1989

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INTRODUCTORY REMARKS

Vitaly Shevoroshkin

I am writing this after having attended the second (1989) Moscow *Conference on Linguistic Reconstruction and Prehistory of the East*. Both there and at the first conference (1984) scholars discussed not only linguistic problems of deep and not-so-deep reconstructions and comparisons of languages but also the possible location of homelands of the peoples who spoke the reconstructed languages, chronology, and so on. In the area of historical linguistics, remarkable progress was achieved during the five-year period between the Moscow conferences: whereas in 1984 reconstructions of proto-languages – ancestors of linguistic phyla (Nostratic, Sino-Caucasian) were topics of discussion, in 1989 several SYSTEMATIC COMPARISONS BETWEEN THESE PROTO-LANGUAGES were considered: namely comparisons between Nostratic, Sino-Caucasian, Austric, and Amerind – the latter represented by a few archaic daughter languages.

Actually, the first such systematic comparison, that of Nostratic and Sino-Caucasian, had already been presented at our Ann Arbor Symposium on Language and Prehistory (Nov. 1988), in Starostin's paper 'Nostratic and Sino-Caucasian'. Since this paper is exceedingly important for the progress of deep reconstruction, we have included the full – not preliminary – report in the present volume. This report was also repeated, with some minor changes and corrections, at the Moscow 1989 conference; we included these alterations (along with still more corrections) in the present edition.

In spite of recent (and not-so-recent) advances in the Soviet Union in the field of historical linguistics, the majority of Western scholars are antagonistic towards any kind of deep comparisons and reconstruction. This largely stems from ignorance, as they know only of the long-range comparisons and reconstructions made in the U.S. in the 50's and 60's – all of which soundly failed. These scholars are often completely unaware of Illich-Svitych's successful reconstruction of the Nostratic proto-language – made a quarter century ago – let alone reconstructions of daughter languages of Sino-Caucasian

(North Caucasian, Yeniseian, Sino-Tibetan, etc.) made or re-made recently by Soviet scholars.

This attitude is very damaging to the spread of knowledge among the new generation of talented youth, since linguists of the orthodox 'establishment' serve on the commissions at foundations and universities, effectively blocking any attempt to obtain a substantial grant for research or for translation of Russian works in deep reconstruction of languages. All this despite the fact that Amerindian historical linguistics lacks a workable long-range methodology, and scores of American Indian proto-languages still lack reconstructions.

Of course, not all Western linguists are that ignorant. I do not want to quote here the high evaluations of Nostratic reconstructions by Western experts (B. Collinder, N. Poppe, K. Menges, P. Garde, R. Anttila, H. Birnbaum et al.): they were published long ago. But I would like to mention here the Sinologist William Baxter III from the University of Michigan. He wrote a preface to his translation of Starostin's comparison of Sino-Caucasian daughter-languages (North Caucasian, Yeniseian, and Sino-Tibetan) which appeared in the materials of the Moscow 1984 conference. In this preface he gave Starostin's work a high mark – as the first work of its kind which is methodologically sound, being based on phonetic, morphological, and semantic correspondences between the daughter languages.

Starostin's comparison of NOSTRATIC and SINO-CAUCASIAN contains over 230 sets; it is also based on phonetic correspondences between Nostratic and Sino-Caucasian reconstructed roots. Starostin proposes some slight changes in the interpretation of Nostratic phonetics that may or may not be valid (to me it seems premature to change Nostr. q' and q to k' and x [= x]).

At the 1989 conference in Moscow, I. Peiros systematically compared these Nostratic–Sino-Caucasian sets with Austric (or to be exact, with reconstructed Austronesian and Mon-Khmer roots), and

the results are encouraging; they support the thesis that all macrofamilies are genetically related.¹

The first book of proceedings from the Ann Arbor conference² contains M. Ruhlen's comparison of Nostratic and Amerind. Unfortunately, Amerind is not yet reconstructed; roots cited by Ruhlen are not based on exact sound correspondences since there are only a few valid reconstructions of Amerind's daughter languages. Still, the results are interesting; Ruhlen's sets represent the most stable lexical and grammatical elements of both Nostratic and Amerind.

L. Campbell has also (unwittingly) discovered the correspondences, and has published them in a strongly negative review of J. Greenberg's treatise on American Indian language classification, *Language in the Americas*.³ Campbell compares Greenberg's Amerind reconstructions (also used in Ruhlen's work) to Finnish — a Nostratic language — and finds many striking correspondences. Ironically, he chose Finnish not as a representative of Nostratic, but as an arbitrary 'unrelated' language, in order to play down the resemblances that form the basis for Greenberg's Amerind hypothesis: 'Such resemblances should fare better than equations with some unrelated language selected at random. I have compared G[reenberg]'s grammatical evidence with Finnish data and have found that Finnish grammatical forms fit most of G's forms; this makes it difficult to accept the G grammatical data as convincing evidence.' (602) We note just a few of the examples he gives (numbers in the leftmost column are those of Greenberg's Amerind sets)⁴:

¹See also my 'Methods in Interphyletic Comparisons', *Ural-Altaische Jahrbücher* (1989): 1-29.

²V. Shevoroshkin, ed., *Reconstructing Languages and Cultures: Abstracts and Materials from the First International Interdisciplinary Symposium on Language and Prehistory, Ann Arbor, 8-12 November, 1988*, Bochum Publications in Evolutionary Cultural Semiotics 20 (Bochum: Studienverlag Dr. Norbert Brockmeyer, 1989). Henceforth, *RLC*.

³*Language* 64 (1988): 591-615.

⁴Campbell also finds similarities between full-meaning words, but unlike the grammatical correspondences he finds, this list is mostly spurious. (607-08)

	A M E R I N D	F I N N I S H
3	m '1p' (Chibchan-Paezan; Penutian – mainly pl.)	m- 'we', minä (mɪnä) 'I'
11	s '2p'	-si 'your (sg.)', sä 'you (sg.)'
13	t 'Dem., 3p pron.'	tä- this
14	m "	tä-mä 'this', nä-mä 'these'
15	n "	ne 'they, these', nä- 'these'
19	k '1p dual'	Finno-Ugric *-k 'dual', Finn. me-k 'we', cf. kaKte- 'two'
23	ni 'this', nī 'hither', eni 'this' [cf. 15 –V.S.]	nä- 'these (here)', ne 'there'

Campbell's argument, of course, makes sense only as long as, as he asserts, Finnish 'is not seriously taken by anyone of reason to be closely related to any American Indian language.' (606) 'Reasonable' as it is, the assumption that the languages cannot be related must be rejected: It would defy the laws of probability for two dozen such identities to be unmotivated. And since grammatical elements are almost never borrowed, the obvious conclusion is that we are dealing with a genetic relationship, one between Amerind and Nostratic; as it happens, the Finnish forms given are identical with not only Uralic (a Nostratic daughter-language), but also Nostratic itself⁵. But for Campbell, with no knowledge of Collinder's Uralic reconstructions or Illich-Svitych's Nostratic reconstructions, such a relationship is inconceivable. With a correct understanding of macrofamilies and the principle of external comparison, however, Finnish may indeed be 'seriously taken' to be related to MANY American Indian languages, and its exact correspondence with the reconstructed grammatical forms of Amerind only SUPPORTS the Amerind hypothesis!

As for comparisons of full-meaning roots of Amerind with those of Nostratic (or Sino-Caucasian, or Austric, for that matter), the situation is more complex: any language contains much more full-

⁵See M. Ruhlen, 'Nostratic-Amerind Cognates' in *RLC*, 78-83; for Nostratic grammatical elements (taken from Illich-Svitych's *Dictionary*), see this vol., 131-61, nos. 45, 59, 65, 111, 121, 122, 128, 129, 134, 142, 149, 150-53, etc.

meaning words than grammatical roots; this increases the possibility of a chance resemblance. I propose, therefore, to compare, first of all, archaic Amerind languages such as Salishan or Penutian; they have conserved complex phonetic systems, which include uvular and laryngeal fricatives, lateral obstruents, as well as oppositions of the type (velar : uvular), (plain : glottalized), etc. What is more, the roots of modern Salishan languages resemble those of Proto-Salish closely or exactly. Here are a few tables comparing Salish languages and Nostratic⁶, arranged by the Salish roots in this order of phonemes: q' qʷ q qʷ k' (incl. č' < *k') kʷ k (incl. č < *k) kʷ t' t p' p λ' þ l m n c' c s h.

S E C H E L T ⁷		N O S T R A T I C
1	qʷwal-ána 'ear' (Salish *qʷwá1-)	**q'/i w/1Λ 'to hear' [M 366-1] (Dolgopolsky: q'/ew/1Λ)
2	qép 'touch with hands'	**qapΛ 'seize' [M 371-2]
3	Root k'at' 'small' in s-k'at'-iqw-úya 'little finger'	**k'Ut'Λ 'small' [#205]
4	s-č'ánu 'dog' (č' < *k') (cf. Ruhlen #35) ⁸	**k'újññ 'wolf, dog' [#238] K'- indicates {k' or q'}, but cf. Kartv. *-k'na 'dog'
5	kʷín 'how many?' (cf. Ruhlen #7)	**K'o 'who?' [#223]. **K'aj ~ **K'a(w), according to Starostin's manuscript on Altaic. (Turkic *ki/e-m, Mongol *ke-n 'who', Tungus *xōni 'how?')
6	t'ip- 'to roast' (Cf. Penut..)	**t'ápΛ 'warmth, heat' (after

⁶Cited mostly after J. Parkinson's list (this volume, 131-61); "#" refers to the entry number in Illich-Svitych's dictionary; "M" to his paper in *Etimologija* 1965.

⁷Forms are cited mostly after J. Timmers, *A Classified English-Sechelt Word-List* (Lisse: Peter de Ridder Press, 1977).

⁸Cited after RLC, 78-83.

	Wintu t'ipe: 'burn emitting sparks')	Starostin #186; cf. M 338-2)
7	Moses túxʷ-uṣʷ 'die, dead' (cf. Salish *tixʷ- 'kill')	**dʌwʌ 'be sick, die' [#76]; the stem may be more complex: IE *dweiH- ~ AA *dwj / *dwŋ
8	-p'ił- 'flat, broad'	**p'iłH- 'broad and flat' [after Dolgopolsky; cf. M 372-16]
9	pákʷ-pákʷ 'liver' (root pákʷ)	Nostr.: Alt. *păk'í 'liver' (Starostin); (Alt. *k' < **k' / **q')
10	λ'ut 'child'	**ɛ'[u][?ʌ]í 'little, small' (Dolg.); ē' = λ'
11	‡ix- 'skinny' etc.	**Lʌ[χ]ʌ 'be ill' (as in Kartv. *lex-) [cf. #272]
12	s-‡iqʷ 'flesh, meat'	*Lʌgwʌ 'meat' (L = l, í, or ‡) as in Kartv. *layw-, Svan. leɣw- 'meat'; Also in Afro-Asiatic: West Chadic *ləhʷʌ
13	‡eqʷ 'bow'	**‡onk'/q'a 'to bend' (*-n- is missing in Salish also in #18, #20)
14	‡up'-íws- 'to skin (animals)'; ‡úp'-uw 'peel off' (= 'heal, as wound')	**Lop'ʌ 'peel, peeled bark' [cf. #268 and Starostin #113]; L- = λ' ? (W. Chad. ē'ʌpʌ 'bark, rind, peel')
15	‡ít 'sprinkle' (< Salishan *‡i:, after Kuipers); cf. Penutian: Wintu ‡i:-d-, ‡e:q- id.	**L/ä/jʌ 'water, pour/flow' (j=y) [#267] (*L/ä/jxʌ, after Dolg.); L = l or ‡
16	ləw 'rib'	**luwʌ 'bone' as in Uralic *luwe id.
17	may 'worn out'	*maHjʌ 'lose strength, weaken, perish' [#356]
18	cíqit 'stab, dig'; root ci(i)q	**čin[g]ʌ 'stick into' [cf. M 335]; č = č or č'

19	háy- 'chase, pursue', háy? - 'hunt'	**Haja 'chase, pursue' ('hunt' in Alt. *aja-) [#103]; H- may be h-
20	háq-t 'breathe', haqʷ-n-áxʷ 'to smell'	**?anqʌ 'breathe' [#125] (note ʕ-, not ?-, in Egyptian ʕnh)

MOSES COLUMBIAN⁹

NOSTRATIC

21	k'it' 'break (string)', Sechelt č'at 'cut'	**k'ʷo/t'/ʌ 'cut' [M 360]; note that Kartv. *k'ʷet- shows *-t-, not *-tʔ-.
22	kəm̩- 'carry, take' (root *kám? ?)	**kamu 'seize' [#157]
23	(k)číʔx 'slide, slip'	**gi[č]hu 'smooth' [#84]
24	kʷa? 'and'	Afro-Asiatic *kʷ conjoining particle, Kartv. *kʷe intensifying particle, etc. [see #201]
25	tq'áw-s 'two'	Kartv. *t'q'u-b 'twins' (but **tu?ʌ 'two' in Nostr. which is compared by Starostin [#180] with Sino-Cauc. *t'qʷwE).
26	p'íʔq 'ripe' (cf. Kalispel p'iyʔaq 'ripe')	**p'uhjʌ 'to boil' (as in IE *speHj- 'to ripen', Uralic *püjʌ- 'boil, ripen') [M 343-15]
27	p'ik' 'bright, shiny, sparkle'; identical with 44	Afro-Asiatic : Berber *PK 'sun, light' (Nostr. **p'äk'[U] 'hot')
28	ptíχʷ-əm 'spit' (Sechelt páχʷt, Cœur d'Alène təpaxʷ; cf. Penuti: Maidu t'üp' id.)	IE *ptieu- 'spit' (descriptive); see s.v. Nostr. **t'upʌ 'spit' [M 354-12]
29	λ'a?-λ'aʔán' 'look for'	**čʌʔŋʌ 'recognize' (Dolg.); č = λ
30	čáq-əlx 'sit' (sing.); cf.	**Lʌga as in Kartv. *l(a)g-, IE

⁹Cited after D. Kinkade, *Dictionary of the Moses-Columbia Language* (Nespelem: Colville Confederated Tribes, 1981).

	‡éqʷ 'put away' ?	*legh- 'put, lie (down)' [#328]
31	‡á̤t' 'wet'	**L/a/t'Λ 'wet, moist' [#265]
32	‡ápxʷ 'burn, scorch'	AA *š̥ab, *š̥hb 'heat' and / or IE *lap- (Anat. and Latw. lap-) 'smolder'
33	lám-kʷ 'break off' (cf. Squamish ‡m-č'- 'chip off'; Penutian: Wintu ‡e/im- 'demolish')	*íamΛ 'fragile', as in IE *lem- 'break; weak', Uralic *íamΛ 'crash; weak'. [M 371-11; cf. #254]

S Q U A M I S H ¹⁰

N O S T R A T I C

34	q'a/aj 'be high up' (-l in Cowichan); root *q'ał	**q'aLi or **k'aLi 'arise, top' [#210]
35	q'ap' 'seize'	*q'ap'ʷ or **k'ap'ʷ 'paw' [#222]
36	q'wuij 'die, be paralyzed', q'wuij-naxʷ 'be killed'; root *q'wui? or *q'wui?	**q'o(H)Λ 'kill, die', as in Kartv. *q'wil- 'kill', Drav. *kol- 'kill', Ural. *kōle 'die' [M 370-5]
37	q'wətq-an? 'pass, go by'	(?) *q/o/dΛ 'move' [M 338-12]
38	k'wāč 'look, catch sight of' (Shuswap wik-m 'see', with w- from *kʷ)	**Koki 'to track, watch' as in Ural. *koke 'search, find', Alt.: Turkic *KogΛ- 'track, chase' [#183]
39	k'wəl?-əw? 'skin'	**kolγ/ɻΛ, after Dolgopolsky; Starostin [# 54] compares Sino-Caucas. *q'wəlHΛ 'bark, skin'
40	tiqʷ 'muddy'	**diqΛ or **tiqΛ 'soil' (=Kartv.) [cf. # 69]
41	təkʷ 'tight' (about clothes, etc.)	**ta/k'/Λ 'suitable' [M 335-7]; *k' may be from **kʷ (cf. #9)
42	n-təɬ-čis 'stone hammer' (cf. Penut.: Wintu -thaɬ-)	**te/í/Λ 'split' [M 360-5]

¹⁰Cited after A. Kuipers, *The Squamish Language*, (The Hague: Mouton, 1967).

	'break')	
43	təh-m 'leak' (cf. N. Wa-kash.: Kwakiutl th-m 'drip')	**t \wedge [h] \wedge 'pour, flow' [M 347-9]
44	p'ač' 'hot' (root *p'ak' / *p'ik?)	**p'äk'U 'hot' [cf. M 337-16]
45	λ'i?-s 'like, love, want' λ'i? 'dear', etc. (root *λ'ay?) (cf. Penut.: Klamath ḥoy? 'be sweet')	**ê/o/hi, **ê/o/hj \wedge or **š/o/hi, **š/o/hj \wedge 'wish' as in Sem. *šhy/w (Dolg.); ê = [λ], š = [ɸ]
46	ɬič' 'be cut'	**šäk'a 'split, cut asunder' (Dolg.)
47	ɬíkʷ 'get hooked (up)'	**ɬük'Λ 'pierce, shove into' [#261]
48	ɬaqʷ 'come off (bark)'	IE *leuk- (infixed *leu-n-k-, as in Lith. lùnkas, Slavic *lyko 'peeled bark' etc.); IE *l < Nostr. **l, **ɬ or **ɿ; *k < **q, or **k'.
49	s-ɬám?ɬm 'dew', ɬám?xʷ 'to rain'	**LaHm/u/ 'marsh, silt, wet' as in Kartv. *lām- or *lam- 'silt, dampness', etc. [# 263]; Starostin (# 106) compares Sino-Caucas. *xwHem \wedge 'wet, liquid'
50	s-mic 'meet' (see Ruhlen #21)	**Ho-mśa (< **?o-m \wedge Ca ?) 'meet' [cf. *114]; see next
51	s-cá-ci?n, cay 'blood', ci?w 'bleed', ci/aqʷ 'red, bleed' (Moses cax 'red'; Shuswap cayʷ 'bleed'); cf. Penutian: Klamath čeqle 'blood', Chinook čxi 'bleed', Kalapuyan ca:l, ci:li-lu: 'red'	Kartv. *či-šx]- 'blood' (reduplication, according to Illich-Svitych) < **s \wedge X \wedge , **?Λ-sX \wedge 'blood'. Cf. Starostin (#169); he compares Alt. *sag \wedge 'blood, health'. Note prefix **?Λ- in Nostr. (cf. Hittite eshar 'blood').
52	səxʷa? 'urine'	**siq \wedge (or **sixu) 'urinate', as in IE: Hittite sebur 'urine' (< sehu-r, as pahhu-r 'fire' ?), AA:

		Arab. <i>ʃħb</i> 'urinate', Alt. <i>sigä-</i> id. [cf. Etimologiiia 1966, p. 402]
--	--	--

	S H U S W A P ¹¹	N O S T R A T I C
53	kʷl- 'bake', c-kʷel 'warmed up'; cf. Cœur d'Alène kʷəl? 'be hot, sunny, warm'	IE: Greek <i>kholé</i> 'burn (v.t.)' etc. (Nostr. *g-), or IE *geul- 'live coals' (Nostr. *k-).
54	t'ik 'fire' (cf. Cœur d'Alène t'æk 'brand')	Ural. *tä[ɣ]u- 'fire' (cf. Alt. *t'/o/ga id.) [see M 337-12 and Starostin #190]
55	tuy-lx 'stoop, bend over', s-tuy 'bent over' (in some Salish languages: tuy 'stoop')	**tojʌ 'tilt, incline; bend', as in Ural. *tajʌ- / *toja- id., Alt. *tajə- 'tilt, incline; lean against' [M 350-6]
56	p'ixw 'roast'	**p'iywʌ 'fire' [M 352-5]
57	cu-? 'to point' (root *cəw / *cú- or *cu:- 'point; show; order', etc.)	**čuhʌ 'look' [#43], **čʌwʌ 'guard' [M 367-12]

This list can easily be extended.¹² Validation for many of the comparisons above can be found in other American Indian languages.

¹¹From A. Kuipers, 'Towards a Salish Etymological Dictionary II', *The Working Papers of the XVI Salish Conference*, University of Montana (1981) 165.

¹²Cf. Moses n-t'äl'-ána? 'wolf': Alt. *t'ulkE 'wolf, fox' (Starostin; cf. M 372-11); Pudget t'i-tele? 'young animal': N[ostratic] **t'sHL[i] id. (Dolg.); Salish *k'wiy? 'quiet' (Cf. also Coos k'a:i 'be quiet'): N **K'o(j(H)) 'lie, rest' [cf. #233], **?əl 'be alive': **?əlA 'live' [#131], etc. Cf. also comparisons between Sq[uamish] and IE made by Kuipers (appendix to his book). Not all of them are valid; here are some of the sounder ones: Sq təh?, tə? 'undergo, be made, be located': IE *dhē- 'put'; also 'make' (< N **diʃu 'put', [cf. #75 and M 344-3]); Sq s-wí?qa 'man', s-wí-w?lus 'young man': Lith. výras 'man' etc. (< IE *wiHro < N **wiHrʌ 'male' [cf. M 362-12]);

For instance, if we add to Salishan **p'ixw-* 'burn' or the like (see set 56 above) Penutian, Hokan, Algonquian and Central Amerind data we can reconstruct the root even more precisely: **p'ixwe* or **p'ixwe* 'fire, heat, hot; burn'. Indeed, the reconstruction of the final *-e is supported by Hokan: Jicaque *pwe* 'burn', Algonquian *-a-pwe- 'roast, fry', Central Amerind: Kiowe *phiæ* 'fire' (cf. also Equatorial: Arawak *pawa-ta* 'make fire'); Penutian confirms the presence of an inlaunting h-type fricative: Takelma *p'i:* 'fire', Proto-Maidu **p'ih-* 'fire', etc.

Now as for Nostratic, a root ***p'iywe*, with **-e, is possible to reconstruct as well, since Uralic (the most archaic Nostratic language as far as vowels are concerned) has **pīwe* 'fire'. In Amerind, the meaning of 'shine, bright' is present as well (cf. Salish: Kalispel *p'exw* 'bright, shine'). Nostratic has preserved this meaning in Altaic: Proto-Japanese **pè-i* 'fire' and **pí* 'sun'. And we can go further, comparing (with both Nostratic and Amerind) the Sino-Tibetan **pwār* 'fire'.¹³ Here we seem to have an archaic suffix *-r present also in Nostratic: cf. Altaic **p'ōrʌ* 'fire', comparable with IE **pexw-r* as in Hittite *pahur* 'fire' (Starostin); both from Nostratic ***p'iywe-rʌ*, or the like.

Looking through the above sets we can easily identify glottalized consonants in Salish (*q'/qʷ*, *k'/kʷ/č'*, *t'*, *p'*) with matching consonants in Nostratic (i.e. *q'*, *k'*, *t'*, *p'*), and, accordingly, Salish *q/qʷ*, *k/kʷ/č*, *t*, *p* – with Nostratic *q*, *k*, *t*, *p* (as well as *g*, *gʷ*, *d*, *b*); this confirms, indirectly, Illich-Svitych's reconstructions of Nostratic. Salish þ (phonetically, a fricative [ɸ] or an affricate [χ]) matches three DIFFERENT Nostratic sounds, ð, þ and ɛ. Salish vowels mostly correspond to Nostratic vowels: (ə : ə); (i : i or ɛ); (a/i : ə); (u : u/ū or o); (ə : u or o) more seldom (ə : a). It seems that some initial sequences of the type **?ʌ- (**Hʌ-) (

Sq *sinλ'* 'senior-line children, elder siblings': IE **sen-* 'aged' (also 'year': cf. M 337-5); Sq *jəm?* 'gird, girth': IE **jem-* 'tie together' (< Nostr. **fámʌ 'squeeze, seize' [#319]), etc.; Kuipers also compares grammatical elements.

¹³See Bengtson's 2nd example in RLC, 32.

represent fossilized prefixes in Nostratic: this is clear also from Starostin's Nostratic-Sino-Caucasian comparisons¹⁴

This is just one of very many examples where we can find exact sound correspondences between different phyla – including those of which the ancestral proto-languages are not yet reconstructed. I think that most of such correspondences will hold: the exact phonetic and semantic matches between Salish and Nostratic are remarkable.

* * *

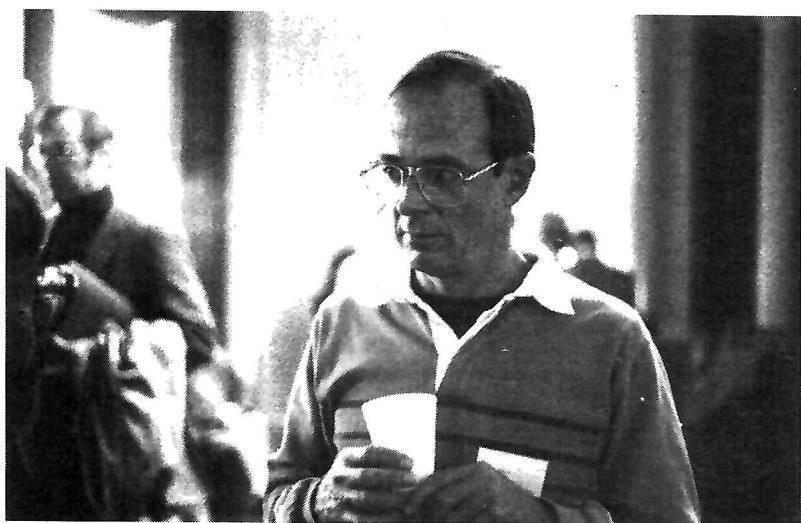
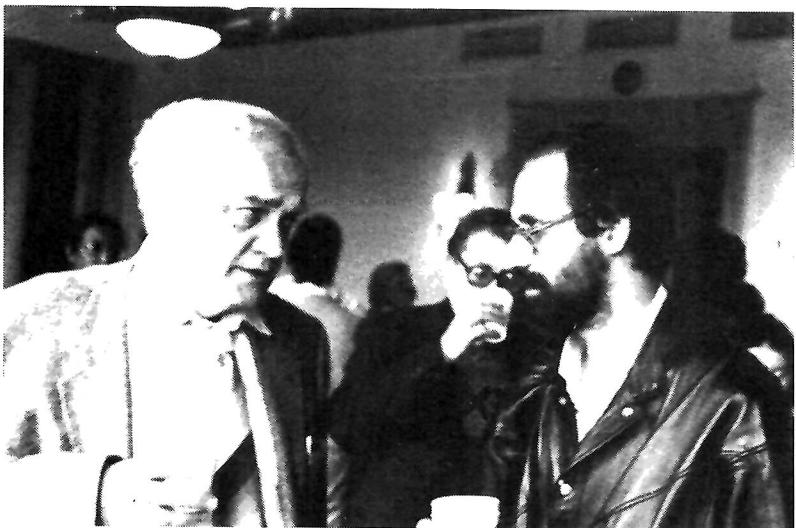
The present volume contains two sections of presentations from participants of the 1988 Ann Arbor Symposium; one dealing with the macrofamily (phylum) of NOSTRATIC LANGUAGES, and the other dealing with INTERPHYLETIC COMPARISONS. A section on RECONSTRUCTIONS follows, which includes Chukchi-Kamchatkan ('Kamchukchee') roots reconstructed by O. Mudrak plus highlights from the *Nostratic Dictionary* – Illich-Svitych's introduction, tables of phonetic correspondences, three unabridged entries, and a list of Nostratic roots reconstructed by Illich-Svitych (this list, edited by J. Parkinson, is prefaced by a list of corrections to M. Kaiser's 'V. M. Illič-Svityč's early reconstructions of Nostratic')¹⁵. Following this introduction is a photo section, which includes a picture of Illich-Svitych and his closest friends, Dybo and Bulatova, who have been carrying out the publication of Illich-Svitych's heritage (it is not yet fully published). Other photos are those of the participants of our 1988 symposium.

¹⁴This vol., 54, nos. 37-42, etc.

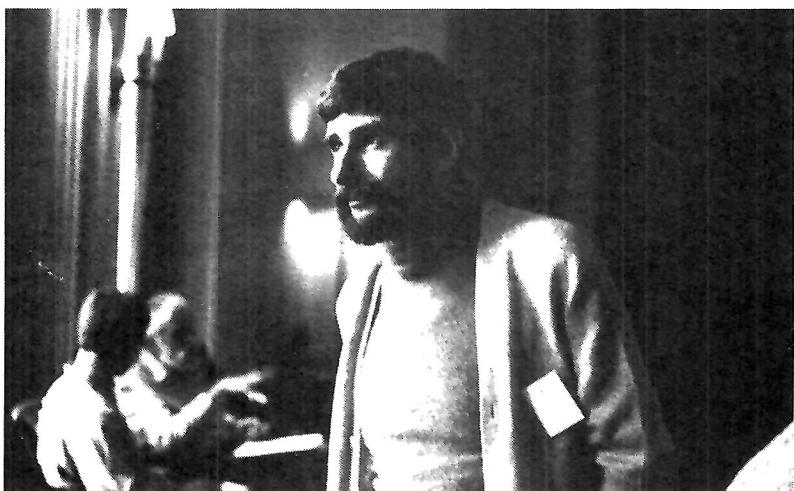
¹⁵RLC, 131-74.



ABOVE: Vladimir Dybo, Vladislav Illich-Svitych, and Rimma Bulatova on the balcony of Bulatova's apartment in Moscow, 1960. BELOW: Karl Menges (Vienna) and Aron Dolgopolsky (Haifa) at the Ann Arbor Symposium, November 1988.



ABOVE: Viacheslav Ivanov and Sergei Starostin (Moscow). BELOW: Merrit Ruhlen (Palo Alto) — Ann Arbor, November 1988.



ABOVE: Gerard Diffloth (Ithaca) and Ilya Peiros (Moscow). BELOW: Vladimir Orél (Moscow). — Ann Arbor, November 1988.

NOSTRATIC LANGUAGES

V.M. ILLICH-SVITYCH AND THE DEVELOPMENT
OF URALIC AND DRAVIDIAN LINGUISTICS
(PRELIMINARY REPORT)

Vladimir Dybo

In the preface to his work "A Comparison of the Nostratic Languages", V. M. Illich-Svitych wrote: "In the more advanced areas of comparative linguistics...there has recently emerged a certain tendency to overestimate the possibilities of the method of internal reconstruction, whose application without the strict control of external comparison can lead to the construction of a multitude of equally probable and equally arbitrary proto-systems. Such a situation requires that we go beyond the limits of any single language family. Only external comparison guarantees the appropriate verification and enables us to select the single variant out of numerous possible historical reconstructions which most closely approaches reality. The very existence of 'Nostratic linguistics' can be justified by the fact that it not only utilizes the achievements of Indo-European, Uralic, Altaic, and other branches of comparative linguistics, but is itself intended to significantly further the development of these areas, just as, e.g., Indo-European aids in the development of Germanic, Slavic, and Iranian studies" (vol. 1, p. 2).

Such a definition of the problem follows naturally from not defining the primary goal of Nostratics to be the determination of a genetic relationship between the six major language families of the Old World. Basically, this fact was already demonstrated by V. M. Illich-Svitych in his earlier, preliminary publications: 1) "Towards a Comparative Dictionary of the Nostratic Languages"; 2) "Correspondences of Stops in Nostratic Languages"; 3) "The Origin of the Indo-European Guttural Series in the Light of External Comparative Data"; 4) "The Reconstruction of Uralic Vocalism in the Light of External Comparative Data".

What is important is that even these first works, which were devoted specifically to proving the remote genetic relationship of the families in question, inspired the author to embark on the study of the comparative historical grammars of these families. This was because Illich-Svitych did not consider the principal goal of the Nostratic theory to be merely proving the kinship of the major language families of the Old World. Instead he set himself the task of creating a comparative historical Nostratic linguistics, that is, a comparative historical phonology, morphology, and word-formation of the Nostratic languages. Proving the genetic relationship of these languages was seen by him as a by-product of solving the primary

task. It is only natural that the creation of Nostratic historical comparative linguistics required a painstaking examination of the data used for comparison, as well as a verification of the precision and reliability of the established reconstructions in each of the compared language families. Elsewhere I have pointed out that in the etymological tradition of each group of the related languages there exists a tendency to convert the corpus of proposed etymological solutions into a closed system, by means of which it is supposedly possible to solve all etymological problems arising in the course of analyzing the languages of the given group. Such an approach is completely appropriate and to reject it would be tantamount to rejecting one of the basic principles of etymological studies. However, in the absence of the strict control provided by external comparison this approach can lead to a situation in which, in those areas of comparative linguistics with highly developed etymological studies, the corpus of etymological propositions appears to be overloaded with versions characterized by exceedingly insignificant differences in probability. A characteristic example is that of Indo-European etymological studies, in which we find a large and ever-growing number of such etymologies. This is particularly true of the basic corpus of root etymologies with dubious derivational, grammatical and semantic motivation. Thus, for example, if one wished to utilize Indo-European material for Nostratic comparison, Pokorny's dictionary would be quite insufficient for the purpose, since one would have to subject each entry to careful scrutiny and etymological revision. As one uses Illich-Svitych's "Opty...", one becomes convinced that just such a review was carried out by the author. On the basis of my own experience I can confirm that this revision was every bit as necessary for Indo-European as it was for any other of the Nostratic daughter families.

As if seeking to avoid the mistakes and extreme positions of their Indo-Europeanist colleagues, Uralic etymologists as a rule have shunned root etymologies and semantically suspicious comparisons. When such comparisons occur in the course of comparative Uralic research, they are usually excluded from "respectable" etymological collections. Due to this strictness, precision, and moderation, Uralic etymological studies compare favorably with Indo-European. However, this moderation and precision have not protected Uralic linguistics from the other extremity. Since the end of the "Golden Age" of Uralic studies, there has been a tendency to "simplify" the overall picture in Uralic reconstruction by excluding from it those elements which are insufficiently motivated by the existing corpus and which don't fit well into the accepted structural schemata, in part without any further careful comparative investigation. In Uralic etymological studies this trend is accompanied by an extreme

tendency to identify the etymological picture with the picture produced by reconstruction. Most often this finds expression in the rejection of parallels only because of their non-correspondence in some detail of the reflexes expected by comparative phonology, although the phonological reconstruction of Uralic is itself still far from complete. A rich collection of such comparative phonological "purisms" can be found in Károly Rédei's new Uralic etymological dictionary where, for example, parallels are rejected because of a lack of correspondence in vowel series.

Thanks to his considerable experience in comparative and etymological research within the fields of Slavic and Indo-European, Illich-Svitych was able as early as the 1960's to grasp rapidly both the strong and weak aspects of the Uralic comparative tradition and to determine exactly the level of precision which the strictly comparative procedure had attained. As the basis for the Nostratic comparison he chose the classical Finno-Ugric reconstruction of Settel and his school in its full scope. This choice attests to Illich-Svitych's profound understanding of the strategies of comparative historical research, since however attractive the given reconstructions may be in terms of structure, phonology, and typology, the practicing comparativist above all requires a maximally articulated inventory of reflexes, precisely such as that provided by the classical Finno-Ugric reconstruction.

One should not conclude, however, that Illich-Svitych's adoption of the "classical" reconstruction was motivated exclusively by "strategic" considerations. I will cite an example. Following Toivanen, Illich-Svitych examined the reflexes of affricates in Saami, choosing the variant with three series of medial affricates. In the rough draft of his comparative Nostratic phonology he writes: 'In Saami the existence of sibilants as the third reflex of affricates in the given position renders probable the hypothesis that here the original opposition was ternary, and hence analogical to the similar opposition in stops (geminates, simple affricates, and spirantized affricates $*\zeta_1$ and $*\zeta_1'$). And further: 'The reconstruction for Uralic of a ternary opposition of affricates defined in terms of the nature of closure in intervocalic position (as suggested by Saami) appears to be confirmed by certain comparisons.'

Subsequently this reconstruction was confirmed by external data (see Table 1, next page).

Thus, in all cases where Illich-Svitych adopted those subtleties of classical Uralic reconstruction which distinguish the latter from modern conceptions, this occurred because modern Uralic studies lacked a convincing comparativist justification for rejecting the results obtained by classical methods. Of course, Illich-Svitych's solutions are not decisive in all such cases. The problems of affricates, laterals, and intervocalic stops remain extremely complex,

and their solution also depends on the state of reconstruction of the compared proto-languages. However, this means that in Uralic the given problem can not be deemed solved and that there remain possible solutions which are alternatives to the currently popular "simplified" Uralic reconstruction.

Table 1

Uralic affricates and their correspondences

glottalic affricates	Ural.	<i>kićća</i> 'small' <i>koććv</i> 'basket'	Kartv.	<i>kuć</i> <i>k(w)s</i>
plain affricates	Ural.	<i>rućv</i> 'to press, to destroy'	Ham.-Sem.	<i>rs</i>
voiced affricates	Ural.	<i>počika</i> 'flank' <i>wičiv</i> 'to see'	Ham.-Sem. Alt.	<i>pħd</i> <i>ūčā</i>

In my opinion, Illich-Svitych obtained his most interesting and promising results within Proto-Uralic in the reconstruction of the Uralic vowel system. His research in this area continued up to the time of his tragic death in August 1966. The results are scattered in various entries in the "Nostratic Dictionary" and are extremely laconic in nature. In his reanalysis of the Uralic data, Illich-Svitych brilliantly demonstrated the thesis which I introduced at the beginning of my paper.

In contradistinction to Uralic, in Dravidian studies Illich-Svitych's work dealt mainly with consonant systems. Most of his new ideas in this field concern the prehistory of the several Dravidian phonemes. Thus, he demonstrated that the two Dravidian trills (dental *r* and alveolar *ɻ*) are the result of a phonologization of initially allophonic variants conditioned by the character (series) of the final vowel of the relevant Nostratic stems:

Dravidian *r*

1. Drav. **par-* 'big' : Alt. *[*bara*], Ural. **para*
2. Drav. **kar(a)* 'thorn, blade' : Alt. **gara*, Ural. **kara*
3. Drav. **kor-* /**kur-* 'crane' : Alt. *[*kara/kura*]
4. Drav. **kar(a)* 'bank, shore, edge' : Alt. **kira*
5. Drav. **narv* 'fire; to be in flames' : Alt. *[*naha*] 'sun'
6. Drav. **kür-* 'antelope, deer' : Alt. *[*gūra*] 'male antelope'
7. Drav. **murv-* (variant *muγv-*) 'to smash, to break' : Ural.
mura*/mora* 'friable, fragile'
8. Drav. **ēr-/*eri* 'to shine brightly, to flame' : Alt. *jaru-* 'to shine,
to shine brightly'
9. Drav. **ūr-* 'to thaw, to melt' : Alt. **ūRu* 'to flow'

Dravidian *r

1. Drav. *i_R(a)-/*er- 'to break' : Ur. *erä 'to fall apart, part, portion'
2. Drav. *ēr- 'male' : Alt. *ērä 'male'
3. Drav. *ēr- 'to rise' : Alt. *urä (ōra~ or[a]) 'to rise'
4. Drav. *kar (variants *kār/*kār) 'black' : Alt. *Karä 'black'
5. Drav. *mār (variant *mār) 'offspring' : Alt. *[miarä- 'marry']
6. Drav. *mu_RV 'to twist, to turn' (depalatalized variant *muri -) : Alt. represented by Mong. *muri-, Tung. *möri- 'to turn'
7. Drav. *per- 'to pick, to collect' : Alt. *bari- 'to take in (one's) hand'
8. Drav. *nerri 'forehead, front side' : Ur. *nēre- 'front of head'

Dravidian long vowels

Example: Drav. *-īr-/*-īr- 'to drag' : Alt *ir'a ("Optyt" contains seven examples of similar correspondences).

Ur. ā : Finno-Baltic ā ~ elsewhere *ā reflexes (a/ā-stems)

- A. 1. 'to ford' : Fin. kaala ~ Lapp galle- (< *gälä-), Mord. *kälə-, Cher. kel-, Perm. *kēl-, Vogul käl, Ostj. kül-, S.Ostj. kit-, Kung. kel- (open [e]) 'to rise';
2. 'mountain, forest' : Fin. vaara ~ Lapp varre- (< *wärä), Vogul *wär/wär (< wära?);
3. 'hair, down' : Fin. naava ~ Lapp njave- (< *näwä-);
4. 'fork, branching' : Fin. haara ~ Lapp sarre (*śärä)
5. 'face' : Fin. naama ~ Lapp namme (< *nämä)
6. 'custom' : Fin. naala ~ Lapp nalle (< *nälä)

Ur. ē : Finno-Baltic ē ~ elsewhere *ē reflexes

- B. 1. 'side, half' : Fin. pieli (< *pēle-) ~ Lapp bælle-, Mord. *pälə, Cher. pel, pele, Perm., pól, Vogul *päl, Hung. fél, fele-.

External comparisons

Ur. ā

1. Ur. kälä 'to walk' : Alt. [kälü] : Drav. käl- (Optyt I, N 161)
2. Ur. näwä 'hair, down' : Drav. *näv- or *näv- (Optyt II, N 322)
3. Ur. wärä 'mountain, forest' : Drav. *vär (Illich-Svitych notebooks)

Ur. ē

1. Ur. kēle 'tongue, language' : Alt. kēlā (Optyt I, N 221)
2. Ur. wēre 'edge, shore' : Drav. var- 'side, edge' (DED 358; Illich-Svitych notebooks)

Another result of the successful application of external comparison was Illich-Svitych's successful explanation of irregularities in the length of first-syllable vowels as due to compensatory lengthening brought about by the reduction of final low vowels, cf. Drav. *-īr-/īr-* 'to drag', 'to pull' (corresponding to Alt. *ir'a*), etc. (there are seven such examples in the first two volumes of Illich-Svitych's dictionary), although lengthening does not occur when an etymologically expected high vowel is reduced.

In other instances external comparison compelled Illich-Svitych to introduce changes in the Dravidian reconstruction. Thus, it proved to be the case that entities which correspond externally to sibilants and point to a consonant series reconstructed by Illich-Svitych as composed of laterals, coincided with a class of morphemes containing Drav. *c-/cc-* and giving the reflex *k-* in North Dravidian and Bragui. This led Illich-Svitych to reject the notion that this reflex is secondary, positionally conditioned, or sporadic, and to reconstruct a particular Dravidian phoneme *c_I-*. On similar grounds he proposed the reconstruction of Drav. *p_I-* (a lax *p-*), which has variants exhibiting two-fold reflexes: *p- ~ v-*.

In all such instances, one can see that external comparisons inspired Illich-Svitych to examine alternatives which had been rejected or overlooked in the course of internal comparison within the daughter languages, and to reestablish the strict control of the comparativist procedure.

Dravidian languages came into the orbit of Illich-Svitych's Nostratic research at a comparatively late date (later than the other language groups). This seems to explain why we now find many Dravidian parallels that were not used by him even in the first edition of Emenau and Burrow's etymological dictionary. On the other hand, new advances in the acquisition of Dravidian data, particularly Central Dravidian, as a rule have confirmed the proto-Dravidian nature of the parallels proposed by Illich-Svitych on the basis of one of the Dravidian groups. Thus, for example, comparison #160 (**kājw* 'to chew'), which, as we can see today, should now include the Dravidian morpheme introduced by Illich-Svitych on the basis of South Dravidian material available at the time.

As I have attempted to show, Illich-Svitych's research was not based on a comparision of reconstructed protoforms taken from etymological dictionaries and certainly not on the comparison of individual lexemes selected from dictionaries, as his critics have sometimes claimed. His work was distinguished by an exceptional attention to the entire corpus of the comparative evidence from individual languages, as well as by a methodological rigor which is often lacking in the work of many of his critics.

Yet another conclusion that emerges from a study of Illich-Svitych's Nostratic works is that only extreme methodological rigor, precision, and comprehensiveness of scope can ensure true success in the investigation of remote genetic relationships among the world's languages.

Translated by Joseph Schallert

Table 1

glottalized affricates	Ur. kićća 'small' ~ Kart. kuć Ur. koćća 'woven basket' ~ SH ḫ(w)s
plain affricates	Ur. ruća 'crush, destroy' ~ SH rs
voiced affricates	Ur. počka 'thigh' ~ SH phd Ur. wička 'see' ~ Alt. üjä

Table 2

Uralic	Altaic	Dravidian	Reconstruction
a	a	a	*a
o	o	o/a	*o
u	u	u	*u
ä	ä	a	*ä
e	e	e	*e
i	i	i	*i
ü	ü/ö	u	*ü

Table 3

The Uralic ō in e-stems

Nr.	language word	Finn.	Mordv.	Mari	Perm'.	Mansi	Hanty
1	'sinew'	suone-	*sAñ	*sün/sön	*sən	*tən	*pan
2	'arrow'	nuole-	*nal	*nölö	ńel	*ńel	ńal
3	'(fish-) scale'	suomu	*śav	*śüm/śöm	śem	*sēm	sam
4	'bird cherry-tree'	tuome-	*lam	[lom-bo]	ləm	*lēm	[fōm:fām]
5	'to rub'	huosia	----	čüčeš	?	*sēs-	čač
6	'to build'	vuole-	----	----	vel	----	----
7	'to peel'	kuore-	*kar'				
8	'mountain'	vuore-	----	----	ver	----	----
9	'young'	nuore-	----	nör-ga	----	----	----
10	'way, rank'	juone-	jAñ	jön	----	----	----

Table 4

The Uralic ō in a-stems

Nr.	language word	Finn.	Mordv.	Mari	Perm'.	Mansi	Hanty
1	'intestine'	suole-	*sułə	šolo	*šul	----	*sōl
2	'to lick'	nuole-	*nola	nula	*ńula	ńal-ant	*ńōl-/ *ńäl
3	'to die'	kuole-	*kulə-	kola-	*kulʌ	kāl	*kōl/ *käl
4	'berry'	puola	----	----	*pul	[*pul]	----
5	'side; half'	puole-	*pola	----	----	----	----
6	'forehead'	kuono	*końa	----	----	----	----
7	'tent-pole'	vuole-	----	----	[*yl-]	[*wūla]	*wōl

Table 5

The Uralic ö in e-stems

Nr.	language word	Finn.	Mordv.	Mari	Perm'.	Mansi	Hanty
1	'river'	joki	iov	----	*ju	*jē	*jogəñ
2	'arch'	jousi/ joutsi	jonks	[*jāñež]	----	[*jĂ᷑t]	*jogət
3	'door'	ovi	----	----	----	*ēw	*o᷑-
4	'cartilage'	----	----	nörgö	----	*ńēr	*ńarə᷑
5	'cheek'	poski	----	----		*pēt/ pajt	*pō᷑əθ/ pu᷑θ
6	'moisture'	noro, noru	----	nörö, nöra	*ńur	*ńēr	*ńor
7	'to drink'	juo<*jo᷑e	----	jüeš (3sgPr)	*ju	[*ēj/ej]	*jɔ᷑t'
8	'swan'	juotsen	lokšti	jükšə	*juś	----	----
9	'to peck'	nokkia, nokka	----	----	----	nēkʷ	*no᷑-
10	'bosom'	pove	*ponga	[*pongyš]	[pi-]	[*pūt]	[*pū᷑əv]
11	'three'	kolme	*kolmə	[kym/ kum]	[*kolm].	[kūrəm/ kūrm]	kołəm
12	'saliva'	karel nolki	nolgə	----	----	----	----
13	'straw'	olke	*olgə	----	----	----	----

Table 6

The Uralic /o/ in a-stems

Nr.	language word	Finn.	Mordv.	Mari	Perm'	Mansi	Hanty
1	(to) sleep	----	*udə	----	----	----	oθ/aθ
2	dream	----	udoma	[omo]	[qlm]	[*uləm/ ülm]	[aθəm/ oθəm/ upəm]
3	squirrel	orava	*urə	ur	*ur-	----	----
4	peel	Est. kõba	*kuva	kuvo	----	----	----
5	fence	otava	[*oš]	----	----	*uš	*wač
6	hare	----	*numola	----	----	----	----
7	to wait	odotta	ušə	wuča (3sgPr)	----	----	----
8	slave	orjA	urě	----	----	----	----
9	awl	ora	*urə	----	----	----	----
10	house	kota	*kudə	kudo	*kɔ-, ka	----	kat
11	orphan	orpo, orvo	urəs	*urwezə	----	----	----
12	male	oras	urəs	----	----	----	----
13	piglet	porsas	purc	----	pɔrś	----	----
14	to penetrate	-----	suva	----	----	tū/tūj	θāŋ
15	mild, weak			[lynzyri]	----	[*länčeŋ]	[lõńši/ luńtə]
16	space	jotka	jutkə	----	----	jot, jøt	
17	birch	koivu	*kujv (>kig)	kue, kugi		[*kɛl]	
18	head	oiva	----	wuj	----	*ēwa/ *äwA	oð/uð/ðð
19	son	poika	*pujə	[*pu]	[pi]	*pīš	păš
20	duck	sotka	šulgə	šue	[*šulə]	*sęš'	saj

THE APPLICABILITY OF EXACT METHODS IN NOSTRATIC RESEARCH
(PRELIMINARY REPORT)

Irén Hegedüs

1.0. Nostratic studies endeavor to dive into the prehistory of reconstructed protolanguages; they undertake the task of solving problems which seem inexplicable when viewed from the standpoint of one individual language family. If we want to uncover and examine genetic relations between languages at such an early time, then it is important that we not overlook the advantages of utilizing methods from other fields of research as well as linguistics. The application of extralinguistic methods can help us to verify, as well as to refine, the results of our Nostratic research. Since Nostratics is one of the most interdisciplinary branches of linguistics, as well it should be, the idea of an interdisciplinary approach to the study of Nostratics is hardly an arbitrary one; on the contrary, it seems completely natural, inherent in the theory itself.

2.0. The first group of such specialized methods as these includes modeling, extrapolation and the principle of correspondence; all of these have by now become general metascientific procedures. The inclusion of these methods in Nostratic study is likely to be extremely beneficial to the strength of the general theoretical foundation of these studies.

2.1. MODELING AND THE RECONSTRUCTION OF THE NOSTRATIC LANGUAGE FAMILY. Regardless of the extreme opinions judging the Nostratic hypothesis as being both already proven or unprovable, we can safely state that the construction of a Nostratic Language Family Model (NLFM) is not entirely void of merit. Modeling in general is the result of making hypotheses, i.e. using phenomenon *a* as a model for phenomenon *A* is the result of forming hypotheses about the evolution or structure of *a*.

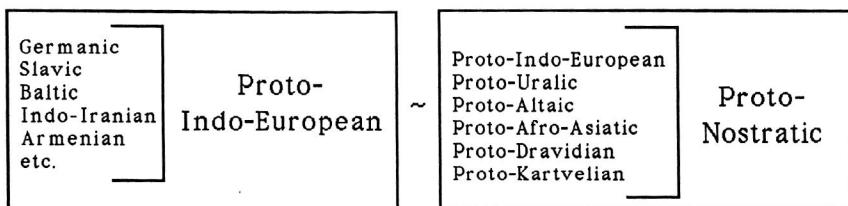
The hypothesis of departure in constructing in NLFM is the theory that the relations between language families are similar to the relations observable within the individual language families; that is, we assume that the developmental processes after the disintegration of the protolanguages were analogous to those preceding their disintegration. If we accept that the corresponding features in Indo-European languages are not the results of convergence alone, then why should we have any more reason to believe that the systematic correspondences between Indo-European, Uralic, Altaic, and other protolanguages are the result of convergence alone? Hadjú, among other linguists, states that the correspondences between Uralic and other language groups go far beyond the basic vocabulary, and include such structural elements as endings, markers, and derivational elements. He finds that the nature and regularity of these correspondences is such that borrowing, chance similarities or convergence alone simply cannot account for them (Hadjú, 1966, 91). Instead, he proposes that the correspondences originate from prolonged areal contact. My conception of correspondences acquired in areal contact is that if we were to actually strip them down to the bone, they would turn out to be extreme cases of borrowing. Thus, I find Hajdú's solution not quite acceptable, and somewhat self-contradictory: it denies the theory of standard borrowing and substitutes for it a special theory of 'areal contact', a special type of borrowing.

If Proto-Indo-European, Proto-Uralic, and other such reconstructed forms are considered to be legitimate, then they can provide a sound basis for further reconstructions. Discussions about the legitimacy of reconstructions have led me to adopt the viewpoint that the reconstructed units have an identity of their own which reflects the current state of comparative studies, and not necessarily whatever their original identity might have been. Thus we can see that reconstructions, like our knowledge of the laws of nature, can be disproven with the growth of scientific experience. A similar opinion on the legitimacy of Uralic reconstructions is expressed by Honti, who assumes that the conjectured vocabulary posited for Proto-Uralic may be able to help us learn some more definite facts about the distant theoretical connections of the Uralic language family. Thus ef-

forts to reconstruct the protolanguage even in mosaic-like form are useful, not because they may be accurate, but because they can serve as the object of yet further examinations (Honti, 1976: 132, 137).

The NLFM, in much the same way as mathematical models, must be built on a set of axioms (preliminary propositions not verified by the theory), from which all consequent theories are expected to derive. Such a set of theories for the NLFM does not yet exist, but I think that the following two principles should by all means be included in the set:

- i. The Nostratic protolanguage was in no respect 'more primitive' than were Proto-Indo-European, Proto-Uralic, and the other protolanguages that descended from it; Proto-Nostratic predates these reconstructed protolanguages by only 10,000 years at the very most. If Proto-Nostratic is to be dated at around 15,000 B.C., that places its existence around 20 millennia after the emergence of articulate human language. This axiom may sound self-evident, but it is certainly not unnecessary, as there are still several misconceptions regarding Proto-Nostratic as some kind of universal proto-speech or as the primordial language of *Homo sapiens*. (Cf. Gluhak, 1977: 54; Serebrennikov, 1982: 55, 56). This misconception has been criticized by Dybo as well (Dybo, 1984: 10).
- ii. Another axiom for the NLFM would be the assumption of an analogy between the trends of linguistic development within and between the individual language families belonging to the Nostratic macrofamily. This axiom could be formulated as follows:



The interpretation of the axiomatic approach does not require the a priori evidence of the axioms. The question as to whether or not an axiom is true can be answered by interpreting the set of axioms themselves. If the interpretations are possible or theoretically inferable, then the axioms can be accepted as formally true.

2.2. EXTRAPOLATION AND THE PRINCIPLE OF CORRESPONDENCE. In exploring unknown territories, scientists often resort to the general theory of extrapolation. The essence of extrapolation is that certain methods applied in earlier research are carried over to unknown territories. This procedure is based on the principle of correspondence that regulates the connection between old and new theories and secures the continuity of scientific research and the integration of a new hypothesis into previous knowledge.

Nostratic scholars are often accused of unjustifiably extending the traditional historical-comparative method to such an early stage of history that the method itself becomes uncertain and useless, due to the obscurity caused by the considerable span of time between the Nostratic time period and the present. According to Kiparsky's view, the traditional comparative method is applicable up to 20,000 years back in time (Kiparsky, 1976: 67). Nostratic studies certainly do not attempt to predate that! but even if we consider Kiparsky's assessment too generous, we still should not forget that the Nostratic theory is still largely based on extrapolation, since its basic assumption is that the laws governing language change after the disintegration of the protolanguages cannot have been very different from those governing language change before their extinction. Thus, comparison

within the individual language families can also be utilized as previous experience in comparisons between them.

Comparative studies within the individual language families seem to be confined by the temporal limits set by their reconstructed protostages. This borderline has been crossed by Nostratics, a change which I consider to be a quantitative one, in agreement with Helimsky (1986: 251). The historical development of languages is continuous; it is only our practice of reconstructing protolanguages that has created this artificial borderline between protolinguistics and paleolinguistics. This quantitative change in the attitude towards the time periods of the reconstructions, however, consequently produces qualitatively different results; it is these results which largely justify the existence of the Nostratic approach. Nostratics also meet the requirement that a new theory not only has to explain the new state of affairs, but also has to explain the derivation of previously known knowledge from it. And if the theory is such that even the gaps in the previous knowledge can be filled up with its introduction, then the extrapolation has been fully grounded and successful.

3.0. The other group of specialized methods which should be used includes probability calculus, factor analysis and statistics. These methods, based directly on mathematics, can positively influence the practical course of Nostratic research.

3.1. CALCULUS OF PROBABILITY. Linguists studying the correspondences in Nostratic languages are continually faced with the problem of how to face these correspondences; chance resemblance and borrowing can very often obscure the original genetic affiliations. At this point, exact mathematical methods can be of much assistance. Probability is most efficient in describing chance phenomena, as has already been exemplified by Dolgopolsky in his classic article (Dolgopolsky 1964: 53ff). His procedure has been criticized by Róna-Tas, who states that Dolgopolsky's procedure has failed on its techniques of sampling; he states that because language is a system, methods based on random sampling for studying linguistic phenomena are inadequate (Róna-Tas, 1978: 221). Róna-Tas may be right in

stating the inadequacy of random sampling, but he seems to have overlooked the fact that it is not a random sample that Dolgopol'skij has worked with. What he has used in his probabilistic approach is known in statistics as a concentrated sample. The use of a concentrated sample basically means that the procedure requires a special sample that must exclude borrowings; i.e., contains only the most stable units. For this purpose, Dolgopol'skij first filtered out borrowings from the sample by the statistical examination of morpheme retention. Doerfer has two objections against Dolgopol'skij's calculations:

1. 'Grundsätzlich ist die Formel, die Dolgopol'skij verwendet, diejenige, die man anwenden muß, wenn z. B. ein Würfel 100 Mal nacheinander gewürfelt (und man bräche das Würfeln ab). In diesem Falle wäre klar, daß der Würfel gefälscht ist (kein Zufall vorliegt, sondern Kausalbeziehung, dem entspricht aber bei Sprachen eben die Verwandtschaft, bzw. die Entlehnung). Hier darf man nun aber nicht übersehen, daß dieselbe Zahl 100 in der Wahrscheinlichkeitsrechnung ganz entgegengesetzte Bedeutungen haben kann: Werfe ich 100 Mal nacheinander 6, bedeutet dies, daß Zufall praktisch ausgeschlossen ist, kausale Bedingtheit praktisch sicher. Werfe ich dagegen 600 mal, und davon 100 mal 6, bedeutet dies, daß kausale Bedingtheit praktisch ausgeschlossen ist, Zufall praktisch sicher.' (Doerfer, 1973: 115)

This is a mere misinterpretation of the procedure carried out by Dolgopol'skij. The die-casting simile that Doerfer draws is not only defective, but has simply nothing to do with the case at hand. Any linguist would know that the probability that two morphemes carrying the same meaning in two different languages will coincide is very high. But when comparing four, five, or more languages, this likelihood is reduced to the insignificant. Greenberg has pointed out that one single item present in four or five languages at the same time has a larger capacity for a correspondence to be proven than do dozens of pairwise correspondences (Greenberg, 1953: 271). Furthermore, if 8 out of 100 words coincide in two languages, then only one out of every 25,000 words should coincide by chance in the comparison of five languages. Practically, this means, as is also emphasized by Hajdú (Hajdú, 1966: 33), that we have to compare 1000 words from each of the five languages and then repeat the process 25 times to find even one chance resemblance. So even linguists who

reject or are unconcerned with the Nostratic hypothesis must admit that multiple comparisons have an advantage of minimizing the probability of chance correspondence; herein lies the benefit of multilanguage comparison. So the die is cast! The other objection that Doerfer raises is against Dolgopolsky's sampling technique:

2. 'Er hat zur Emplification seiner These willkürlich 15 Wörter herausgegriffen wo sich bei den vergleichenden Sprachfamilien relativ viele Ähnlichkeiten fanden... Er hat weder dynamischen Zufall, noch Lautsymbolik berücksichtigt.' (Doerfer, 1973: 114-115)

As far as dynamic coincidence is concerned, that is exactly what the statistical examination of morpheme retention is aimed at. By 'dynamic coincidence', Doerfer means the convergence of the sound shape of words ('lautliche Konvergenz'), which Dolgopolsky tried to discard by selecting the stablest possible items. From an etymological point of view, however, the article may contain some fallacies, as Dolgopolsky himself admits in the introduction to the English translation, published more than two decades after the original; it is still methodologically sound.

Here we must state once again that Dolgopolsky's is a concentrated sample, and as such, it has to be arbitrary. It seems to be the case that one linguist's perfume is another's poison: while Róna-Tas has dismissed the probabilistic method on the grounds that it is based on a random sample, Doerfer rejects it on the grounds that it is based on an arbitrary sample.

3.2. FACTOR ANALYSIS. For the determination of linguistic relationships, Herdan proposed the method of factor analysis, which 'enables us to determine the 'saturation' of a given language with the parent language as the factor common to all languages, the influence of what may be called secondary factors, such as geographical position, and finally, the amount of 'specificity' as that which distinguishes a given language from all others in the group.' (Herdan, 1964: 125) He used Fronzaroli's sample of isoglosses from Semitic languages (Fronzaroli, 1961: 348ff). Later, Fronzaroli pointed out that Herdan's procedure has some shortcomings which could be elimi-

nated by multiple factor analysis. Fronzaroli considers multiple factor analysis to be capable of extracting not only the common portion of correlations, but also other components, such as the speed of the typological evolution and the weight of areal contacts (Fronzaroli, 1973: 109). My own suggestion is that we calculate the connectivity in the Nostratic branches by selecting phonological, morphological, and lexical isoglosses as a representative sample of features either appearing or missing in the different branches. On the basis of this, we can construct a chance model of connectivity for each branch which runs parallel to the others, as well as establish the saturation of each branch with the common Nostratic components.

Since my presupposition is that the morphological data may produce a different picture of connectivity between the Nostratic branches, it seems reasonable to carry out factor analysis on the basis of morphological isoglosses as a separate procedure from the phonological and lexical ones. Although factor analysis has as of yet only been applied to languages whose relationship is already proven, I can see no theoretical condition which would contradict the applicability of this method to Nostratic languages.

3.3. Simple statistical analyses can also further the development of Nostratic studies. The connections between the branches of the Nostratic macrofamily are illuminated by the calculations done by Korenchy on the basis of the first volume of the Nostratic dictionary by Illich-Svitych (Korenchy, 1975: 109-115). The strength of affinity and the degree of affiliation become more tangible, which helps us to formulate the spacial and temporal characterization of the relations within the Nostratic language family. Korenchy's results should be updated by adding the material from the second volume of Illich-Svitych's Nostratic dictionary, as well as from the first fascicle of Volume Three.

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INTERPHYLETIC COMPARISONS

NOSTRATIC AND SINO-CAUCASIAN

Sergei Starostin

After the appearance of Vladislav Illich-Svitych's *Nostratic Dictionary* (= Illich-Svitych 1971-) – a decisive step in proving the genetic relationship of the Nostratic languages – several crucial questions still have to be answered. They can be formulated as follows:

- a) How, precisely, should the Nostratic languages be classified? (For example, does there exist a distinct Altaic branch of Nostratic? Can the Nostratic languages be subdivided into 'Eastern' and 'Western' Nostratic? What are the exact boundaries of the Afro-Asiatic branch within Nostratic?)
- b) Are there any other linguistic families that can be included in Nostratic?
- c) Can we locate the hypothetical disintegration of Proto-Nostratic in space and time?
- d) If there are other macrofamilies besides Nostratic (which now seems to be obvious), is Nostratic genetically related to them?

Any progress in answering any of these questions could be of great importance for our understanding of linguistic prehistory. In this paper I shall express my present views on some of them.

A. Although there has been much debate about the problem of Altaic as a branch of Nostratic, I think that the Altaic family (which includes Turkic, Mongol, and Tungus, as well as Korean and Japanese), can be documented as a distinct entity, and the date of Proto-Altaic split can be placed somewhere on the border of the 6th and 5th millennia B.C.

The problem of Afro-Asiatic is much more complicated. In fact, even among the advocates of the Nostratic theory there is no consensus on the place of Afro-Asiatic within Nostratic. Recent research, both comparative-lexicographic and lexicostatistic, has revealed a great degree of diversity within Afro-Asiatic itself. Preliminary

glottochronological analysis (more positive results could be obtained only after compiling the new Afro-Asiatic etymological dictionary) seems to indicate the possible date of the Proto-Afro-Asiatic split as somewhere in the 11th-10th millennium B.C. – which means that Afro-Asiatic must be as old as Nostratic itself (all other subgroups of Nostratic reveal a much higher rate of coincidences within the basic vocabulary). I think that the final solution to this problem should be postponed until we obtain an improved reconstruction of Proto-Afro-Asiatic and its complete volume of etymologies.

One consequence of this 'cautious approach' to Afro-Asiatic is that I prefer presently to exclude Afro-Asiatic material from the Nostratic comparisons. This does not mean, of course, that Afro-Asiatic parallels for Nostratic roots presented in Illich-Svitych's dictionary and elsewhere (notably in Aron Dolgopolsky's works) are all accidental 'look-alikes': they may purely reflect a relationship between Afro-Asiatic and Nostratic at some deeper level; I shall return to this point later in this paper.

As for the division of Nostratic into 'Eastern' and 'Western', I think that it certainly exists (Indo-European and Kartvelian have a lot of individual common features), but is areal rather than genetic by nature (lexically Indo-European seems to be even closer to Uralic than to Kartvelian). Again, the position of Afro-Asiatic relative to Nostratic seems to speak against the Western Nostratic unity (features that Proto-Afro-Asiatic shares with Proto-Indo-European and Proto-Kartvelian can be explained as a result of a secondary 'linguistic alliance').

B. Several attempts have been made to relate some other linguistic families (Eskimo-Aleut, some American languages, Yeniseian, Nivkh, Sino-Tibetan, North Caucasian) to Nostratic. The only probable theory by now seems to be that of including Eskimo-Aleut in Nostratic (Oleg Mudrak). On the other hand, I have tried to demonstrate the special relationship between Sino-Tibetan, North Caucasian and Yeniseian. ('Sino-Caucasian', which must be dated approximately to the 9th and 8th millennia B.C.; rather probable is also the inclusion of Na-Dene languages into Sino-Caucasian, proposed by S. L. Nikolaev)

There is also a good critical survey of this problem, by Eugene Helimsky (1984). I will therefore in this paper confine Nostratic to Indo-European, Kartvelian, Uralic, Altaic, Dravidian, and probably Eskimo-Aleut.

Since I am a supporter of glottochronology (although I believe that some of its principles are to be modified), I believe in the possibility of absolute linguistic dating (although, of course, highly approximate). One point, however, must be especially stressed: we can obtain satisfying glottochronological results only for language families with a well-developed comparative phonology and lexicography. Nothing has done more harm to glottochronology than its uncritical application to poorly studied linguistic data. Since we can not yet claim to have full knowledge of Nostratic comparative phonology (and what is perhaps even more important – of Nostratic comparative vocabulary; I am sure that the bulk of existing common Nostratic roots can be substantially increased), any attempts to date the Proto-Nostratic split by means of glottochronology are in fact premature. Still, a very approximate guess is 10th-12th millennium B.C. (This dating is of course liable to future verification; it seems however to be probable as well for some reasons other than glottochronology). As to the possible Nostratic homeland, I can only say that it deserves further joint investigation by linguists, archaeologists and other specialists, and depends largely on improving our knowledge of Proto-Nostratic vocabulary.

Recent decades have witnessed substantial progress in long range linguistic comparison. Besides Nostratic, we can now more or less positively speak of the existence of several other macrofamilies: Austro-Tai (and probably even broader: Austric), Afro-Asiatic (if excluded from Nostratic), Sino-Caucasian, Amerind. Comparative research within most of these macrofamilies is only beginning (exceptions are, of course, Afro-Asiatic and Nostratic itself, which are somewhat better explored). Still I think that the question about mutual relationship of macrofamilies is wholly justified – even if the answer by now must be but preliminary.

The rest of this paper will present an attempt to make a genetic link between Nostratic and Sino-Caucasian. To do that, I shall first put forward some phonological observations, since any comparison is futile without at least rough phonetic correspondences.

1. NOSTRATIC. I will in general preserve the phonological system of Proto-Nostratic as outlined in the *Nostratic Dictionary*. But there are some points I would like to dwell upon:

a) The system of Nostratic affricates and sibilants probably needs a revision (see Dolgopolsky 1974). But recently, some work has been done on reinterpreting the affricate systems of Proto-Kartvelian (Y. Testelets) and Proto-Altaic (myself), and until the results of these studies are checked with Illich-Svitych's and Dolgopolsky's reconstructions, I would prefer to hold onto the original notation.

b) The reconstruction of the set of uvular consonants for Proto-Nostratic by Illich-Svitych was based only on Kartvelian evidence. However, all other Nostratic languages lack this series of stops and it is quite probable that in Kartvelian they are secondary, acquired under influence of neighboring North Caucasian languages. External evidence shows that PN *q' has exactly the same counterparts as PN *k', and we will treat them as one and the same phoneme (reflexes of *k' and *q' coincide in all Nostratic languages except Kartvelian). As for Nostratic uvulars *q and *q̊, they can be treated in most cases as the velar spirants *χ and *γ (although in some cases Kartvelian *q seems to be a result of a secondary shift *k > *q analogous to *k' > q').

c) There has been a recent attempt to reinterpret the Nostratic system of stops (Bomhard 1987), stimulated mainly by the so-called glottalic theory of Indo-European stops. According to Allan Bomhard, Indo-European voiced (aspirated) stops correspond to Kartvelian voiced stops (in this point his theory coincides with that of Illich-Svitych); Indo-European glottalized (traditionally, voiced unaspirated) stops correspond to Kartvelian glottalized stops, and Indo-European voiceless (aspirated) stops. The two latter correspondences

are strongly opposed to Illich-Svitych's rules (according to which PIE *d, *g = PK *t, *k; while PIE *t, *k = PK *t', *k').

If one excludes Afro-Asiatic data (as we proposed to do above), the weakness of Bomhard's theory immediately becomes apparent. Searching through the material adduced in Bomhard 1987, I could not find a single example of PIE *t (or *th in the 'glottalic' notation) = PK *t or PIE *k (*kh) = PK *k. On the other hand, in one of Illich-Svitych's basic works (Sootv.) we find several good examples of PIE *d (or *t' in the 'glottalic' notation) = PK *t and PIE *g (*k') = PK *k (cf. PIE *del(H)- 'split, trim' = PK *tal- 'trim, plane'; PIE *deH- 'drip, flow' = PK *tx- 'pour', PIE *skeid- 'split' = PK *c₁it- 'hew', PIE *g₁el(ō)u- 'husband's sister' = PK *ka1- 'woman'), and more examples can be added. As to the correspondence PIE *d(*t') = PK *t', PIE *g(*k') = PK *k'(or *q'), in Bomhard 1987. we find four examples of it: PIE *deH- 'cleave asunder, divide' = PK *tex- 'to break'; PIE *gel/*gol/*g₁- 'neck, throat' = PK *q'eli id. (but cf. PIE *kol- id.), PIE *g₁wer- 'to swallow; neck, throat' = PK *q'war- 'pharynx, throat, gullet' (probably PK *q'orq'- [See Klimov 1964:213] is meant); PIE *g₁wel- 'strike, kill' = PK *q'wel- 'slay, kill'. Only the last example is satisfactory (in fact, Illich-Svitych lists it [1967:370] in spite of its irregularity). On the other hand, Bomhard disregards completely a very considerable number of correspondences PIE *t, *k = PK *t', *k'(*q'), cf. (in Sootv.): PIE *terp- 'be satiated, satisfied' = PK *t'rp- 'enjoy'; PIE *lat- 'wet, liquid' = PK *lt'w- 'soak'; PIE *mat- 'worm, grub' = PK *mat'l- 'worm'; PIE *kwel- 'turn round' PK *k'wer- 'round'; PIE *ker- 'bind' : PK *k'(a)r- id.; PIE *ket- 'building, room' : PK *k'ed- 'build'; PIE *kel- 'rise, high' : PK *k'latx- 'high'; PIE *k₁erd- 'heart' : PK *mk'erd- 'breast'; PIE *lu₁k- 'lynx'; PK *lak'(w)- 'dog'; PIE *k₁ieu- 'hear' : PK *q'ur- 'ear'; PIE *(e)lek- 'elbow' : PK *d(l)aq'w- id. etc. That is why I now deem it impossible to justify Bomhard's revision of the Nostratic phonological system and think that the original system of correspondences established by Illich-Svitych is to be preserved (although its phonetic interpretation may be different; see below).

2. SINO-CAUCASIAN. In 1984 I presented a rather complicated system of correspondences between North Caucasian, Sino-Tibetan and Yeniseian (Starostin 1984:20-21). However, recent developments in the field of North Caucasian comparative phonology (connected with my joint work with Sergei Nikolaev on the Etymological Dictionary of North Caucasian languages) have now made it possible to modify and simplify this system considerably.

It appears now that Proto-NC had no opposition between voiced and tense voiceless stops (* \bar{k} -g, * \bar{t} -d etc.), as we originally thought. This opposition can be shown to have arisen secondarily only in Eastern Dagestan languages due to a split of a single Proto-Dagestanian voiced stop series. Now the so-called geminates in Proto-NC (e.g. *cc, * χχ) appear to have had a specific distribution: within one root there could be combined only either 'geminated' consonants (e.g. *qqaqqa 'seed, grain') or 'non-geminated' e.g. čäčwV 'stone'), the only obligatory exception being the roots with an inlaunting sonant (e.g. *cwarggwV 'weasel, martin', not *ccwarggwV). Thus it is possible to regard Proto-NC 'geminates' as allophones of simple (non-geminated) consonants arising under special conditions (probably prosodic, something like 'tense voice'). Below we shall mark such cases by underlining the neighboring vowel (e.g. *čäčwV as opposed to *qaqa and *cwärgwV). It is necessary to note also that the sounds that we originally interpreted as 'strong' ('tense') spirants (*-s, *-x, etc.) reveal the same kind of distribution as 'geminates' and thus can be also treated as allophones of simple ('lax') spirants (*s, *x, etc.).

After these (and some other) modifications have been introduced, the reinterpreted set of correspondences between Sino-Caucasian languages looks as follows:

SC	NC	ST	PY
*p	p	ph/bh,-p	p
*b	b	p(h),-p	p/b
*p'	p'	b,-p	b
*t	t	th/dh,-t	d
*d	d	t(h),-t	t
*t'	t'	t/d,-t	d
*k	k	k/gh,-k	g
*g	g	k(h),-k	k
*k'	k'	k(h)/g,-k	g,-k
*s	s	s,-Ø	s(/d)
*c	c	c(h),-t	č/s
*ž	ž	s/ʒh,-t	ž/s
*c'	c'	s/ch,-t	c/s
*st	c	?	t
*sd	z	ch-	t
*st'	c'	s-	t
*š	š	š-,-Ø	s(/d)
*č	č	č/ž,-t	č/-ž-,s
*ž	ž	č-	č-, s/ž
*č'	č'	č-/žh-, -t	č-/ž-, s/ž
*št	č	-t	t
*šd	ž	č(h)-	t
*št'	č'	?	t
*s	š	s-,-Ø	s(/d)
*č	č	č,-t	ž-, s
*ž	ž	č,-t	ž-, s
*č'	č'	č/š, -t	c/s
*λ	λ	l	Ø-,l/í
*ħ	ħ	l/ħ,-k	?-, r
*ħ	ħ	l/ħ,-k	k-,r
*λ'	λ'	l/ħ,-k	j-,k-, l(í)
*xk	ħ	-k	-ħ-
*xg	g	gh-,-k	q-,-ħ-/ -x-

SC	NC	ST	PY
*xk'	k'	-k	q-, 9-(?)
*x	x	χ/q(h)-,-Ø/-k	χ/x
*χ	χ	k(h)qh(w),-Ø/-k	χ/q
*q	q	q~ 9,-k	χ,q/9
*9	9	q(h)/9,-k	χ,q/9
*q'	q'	Q(w)/K,-k	χ/q
*xq	q	k	x(/k)
*x9	9	k	k
*xq'	q'	k	g/x

For other consonants (sonants, voiced spirants, laryngeals and pharyngeals), see Starostin 1984:22.

3. NOSTRATIC AND SINO-CAUCASIAN. At present, the lexical evidence presented below can be regarded only as a preliminary list. I have confined the Nostratic vocabulary strictly to the set of roots presented in the *Nostratic Dictionary* and Illich-Svitych 1967 (only a few roots quoted in several of Dolgopolsky's papers have been added) and have completely ignored parallels where only one of the Nostratic subgroups is present (such as Altaic-Sino-Caucasian). It is thus evident that the list can be substantially enlarged, but that is a matter for future studies.

For a considerable amount of roots in the list parallels from other macrofamilies (at least from Afro-Asiatic and Austric) can be found; in fact, a great number of Afro-Asiatic parallels are already published in the works of Illich-Svitych, Dolgopolsky, and others. I have no reason at all to suppose a closer genetic link between Nostratic and Sino-Caucasian than, say, between Nostratic and Afro-Asiatic or between Afro-Asiatic and Sino-Caucasian. (In fact, a preliminary study together with A. Militarëv and V. Orël has revealed quite a lot of probable isoglosses between Afro-Asiatic and Sino-Caucasian.) That is why no attempt has been made to reconstruct 'Proto-Nostratic-Sino-Caucasian' – one should rather postpone it until we

know more about the inter-relationship of the world's several macrofamilies (*phyla*).

However, some observations of phonological nature certainly can be done. They concern primarily the system of stops, where the correspondences are as follows:

Nostratic	Sino-Caucasian
*p-, -p-/-p'-	*b-,-p'- ¹⁾
*p'	*p
*b	*b
*t	*tw, *t'w
*t'	*t, *t', *dw
*d	*d
*k	*kw, *k'w, *qw, *q'w
*k'	*k, *k'; *q, *q', *gw
*g	*g, *g ²⁾

Notes:

- 1) The distinction between intervocalic *-p- and *-p'- in Nostratic is rather vague, and in many cases we are not able to draw it. On the other hand, word-initial *p' is extremely rare in Sino-Caucasian. Therefore I thought it possible to unite the correspondence rows PN *p : SC *b- and PN *-p-/-p'- : SC *-p'-.
- 2) There are three cases when SC *g(w) or *g'(w) correspond to PN *k (48, 51, 52): in all of these cases there appears a postvocalic -j-.

The above correspondences are hard to explain if we presume that PN glottalized consonants were really glottalized. However, if we keep in mind that the reconstruction of PN glottalized (as well as uvular) stops is based only on Kartvelian evidence, and suppose that the Kartvelian glottalization may have substituted (probably under a substratum influence) some other earlier laryngeal feature, things become much easier. All of the above correspondences can be explained by assuming that:

- a) in the dental and velar series original glottalized (non-labialized) stops were preserved in SC but merged with plain stops in PN, yielding probably aspirates (in fact, reflexes of these consonants are aspirated in Indo-European and Altaic; the Kartvelian shift of aspirated to glottalized stops, as already mentioned, must be due to substratum).
- b) the additional feature of labialization vanished in PN, but conditioned a specific shift of laryngeal features: original aspirated labialized stops (going back to voiceless and glottalized labialized stops) must have lost their aspiration and became PN *t, *k (reflexes of these consonants are unaspirated in Indo-European and Altaic); while original voiced labialized stops must have inversely acquired aspiration and merged with voiceless aspirated stops.
- c) labial stops could not have been labialized, and therefore in this series we observe straightforward correspondences (SC *b = PN *b, SC *p = PN *p' [= *ph]). However, original labial glottalized consonants did not merge with plain voiceless stops in Nostratic, being reflected as a combination *pw (i.e. resulting in PN voiceless *p).

Thus the external evidence seems to indicate that consonants traditionally reconstructed in Nostratic as glottalized (emphatic) had, in fact, been voiceless aspirates – and this also may better explain some of their reflexes in Nostratic daughter languages.

Another observation can be made concerning the fate of lateral consonants in Nostratic. In most cases the Sino-Caucasian laterals correspond to Nostratic *l (or *l + velar in the intervocalic position, see examples 40, 45, 96, 100, 103, 106, 108, 120, 138, 142, 200, 202, 204; this *l gets lost after a preceding *-r-, cf. examples 114, 122). However, if a liquid *l follows a lateral affricate, the latter by dissimilation becomes a stop:

- a) a dental stop if the original lateral had no labialization (cf. examples 191, 197), and
- b) a velar stop if the original lateral was labialized (cf. examples 60, 86, 199).

Of course, this is only a beginning: there are still many gaps both in the Nostratic and Sino-Caucasian reconstructions, and the data of

other macrofamilies are yet to be investigated. No correspondences are as yet available for the complicated systems of Nostratic and Sino-Caucasian affricates, spirants and postvelar consonants, as well as for vowels. Still I think that the existing evidence is already enough for assuming a distant genetic relationship between the two macrofamilies of the Old World.

LEXICAL PARALLELS BETWEEN NOSTRATIC AND SINO-CAUCASIAN

1. PN *balk'a 'shine, gleam' (OS 5): ST *Pōk 'white'.
2. PN *bongā *(~ *p'-) 'thick, swell' (OS 17): SC *pVnKV 'swell' (ST *phōŋ/*phuŋ 'swell, blow up', PY *piŋ'η 'swell, swelling')
3. PN *bóra 'grayish-brown' (OS 18) : NC *bHūrV id.
4. PN *bulV 'to mix, stir up' (OS 20): ST *puat
5. PN *bažV 'much, enough' (OS 28: PA *bajV 'rich, plentiful' should be added): SC *bVHV 'big, many' (ST *pā 'big, great', PY *bəj- 'many', NC > WC *bHV 'thick, big').
6. PN *bara 'big, good' (OS 7) : ST *p(h)Vr 'big, great, increased'
7. PN *biča 'small' (OS 11) : NC *bi(n)c'V id.
8. PN *calu 'split, cut' (also 'mow') (OS 33): SC *cV4HV 'mow, reap' (NC *o-cV/l/- 'mow', *cōtV 'scythe', ST *chēH (~ *chāH) 'reap').
9. PN *cujhā 'thorn' (OS 34) : ST *cūH id.
10. PN *c'äjhā 'shine, shimmer' (OS 37) : SC *c'AjV 'shine, light; fire' (ST *ziāj 'shine, light', NC *c'ajt 'fire; glitter').
11. PN *curV/*corV 'drip, ooze' (OS 35): SC *ʒwVrV (~ *sdw-) 'strain, pour' (ST *ch/ōr, NC *i-ʒwVr-).
12. PN *čap'a 'beat, chop' (OS 41) : ST */č/Vp 'break, tear up'.
13. PN */čaj/rV 'pale, white, yellow' (MS 363; roots with the meaning 'moon' should be kept apart, see below) : SC *c'ArV (~ *st-) id. (ST *sVr /~ *ch-?/ 'yellow, gold'; NC *H-c'arV 'gray, pale').
14. PN *čarV (~ *č'-) 'rind, crust' (OS 47): SC *štArV id. (PY *tər-ap, NC *čHārV).

15. PN *č'abV (MS 344) 'clay, glue': SC *č'ebV 'clay, model' (ST *Čap 'to stick, adhere', NC *č'ebV 'clay, model').
16. PN */č/ämV 'astringent, sour' (OS 54, MS 368 [with irregular correspondences between PIE and PU]): SC *c'wE/m/HV 'salt' (ST *čum (~ c-), NC *c'wenHV).
17. PN *č'ik'V 'cut' (OS 55): SC *č'wVk'(w)V 'a cutting tool' (ST */žh/ākʷ 'chisel', PY *čok 'axe', NC *č'wík'wV 'knife').
18. PN *č'VmV 'eat' (OS 57: only Kartvelian): SC *č'wVmV 'chew, hold in mouth' (ST *žhi(a)m (~ -ē-), NC *He-č'wVm-).
19. PN *č'alHa (~ č-) 'spread out, broad, plain': SC *ʒVIHV id (ST *čel (~ ɬ) 'spread out', NC *ʒəlHV 'plain').
20. PN *č'ok'V (~ č-) 'big, many' (MS 331): SC *č'VqwV id (ST *čok 'enough, plenty', (?) PY *suK- 'thick', NC *(HV)-č'eqwV 'big'). We should expect *-k- in PN: -k- is probably due to assimilation.
21. PN *dikV 'earth, clay' (OS 69): SC *dVQV 'clay' (ST */t/ia^k, PY *təq-).
22. PN *ga(HV) 'take, obtain' (OS 77): SC *(a)gV 'take, hold' PY *-aq-, NC *?g-gV-).
23. PN gändu 'male' (OS 79): SC *KenTwV 'man, male' (PY *ke't 'man'. NC *kwVn(V)t'V '(young) man, male'). Due to dis- or assimilations it is hard to reconstruct precise laryngeal features for SC.
24. PN *gUjra 'antelope, deer' (OS 90, 93: 90 and 93 are probably one and the same root): SC *xgVjV 'deer' (ST *ghij '(barking) deer', PY */q/Vja 'deer').
25. PN *güpA 'to bend, bow' (OS 92): ST *g(h)üp id.
26. PN *yark'u (<*yak'ru?) 'bend' (OS 97): SC *-gwVrV id. (ST *kuar, NC *?i-gwVr-).
27. PN *yuru 'flow, flood' (OS 98): SC *HwVrHV 'flow; pool, water body' (ST *Hor 'flow, soak'; NC *?wirHr 'water pool').
28. PN *yVmV 'darkness, night' (OS 99: only Kartvelian): SC *xVmHV 'dark, evening' (ST *yVm 'dark, shadow', PL *xIam̥ 'evening, darkness').

29. PN *Hanga 'open (the mouth), opening' (OS 105): SC *HamgV 'hole, opening' (ST *khāH 'opening', PY: Ket., ag-di 'mouth cavity', NC *hēmgV 'hole, window').

30. PN *Henka (~ Hekna) 'to burn (OS 106): SC *-xAnV 'to warm up' (ST *kāŋ 'roast, fry', PY *(h)əqan- 'boil', NC *He-xVn- 'warm up').

31. PN *H/E/mi 'suck, swallow' (OS 109) : ST *?Vm 'drink, suck, hold in mouth'.

32. PN *Hok'i 'sharp edge' (OS 113) : SC *-xk'V 'sharp, sharpen' (PY : Ket. i:- 'to sharpen', NC *?V-k'V 'sharp(en)').

33. PN *Homsa 'meat' (OS 114): SC *jVmCV 'ox; meat' (ST *chu (~ -o) 'a kind of ox', PY *?ise 'meat', NC *jəmco 'ox').

34. PN *Ho(k)sV 'ash-tree' (OS 117) : PY *?oksi 'tree'.

35. PN *Huk'a 'eye, see' (OS 118): SC *-gwV 'see' (? ST *kʷē-n (~ *gʷ-) 'look' – can be related here if the -n is a suffix: NC *?agwV 'see').

36. PN *Huwa 'flood, stream' (OS 119; cf. also IE: Hitt. heu- 'rain') : SC *-ywV 'rain, to rain' (ST *(r)-qhʷaH, PY *xu-r, NC *?ywV).

37. PN *?anxV 'breathe' (OS 125: perhaps it would be better to add PA *?inV 'live, life' and reconstruct PN *HinxV): SC *HwEnHV 'blood; breath, soul' (ST *(s)-yʷij 'blood; breath': NC *hwenHV 'blood'). The semantic shift 'blood ↔ soul, breath' is fairly common.

38. PN *?aSa 'fire, be hot' (OS 127): SC *-cV 'burn, heat (ST *ca/*cha 'hot, heat', NC *?e-cV 'hot, heat, roast').

39. PN *Ha 'be, become' (OS 102) : SC *?a(HV) id. (ST *?a, NC *?a(hHV)-).

40. PN : ?e1A 'live' (OS 131): SC : -xEV 'be; stay' (ST *xEV 'stay', NC *?o-xEV 'be, become').

41. PN *?esA 'be, settle down' (OS 132): SC *-swV 'sit' (PY *-VsV, NC *?o-swV).

42. PN *?ilV 'deer': ST *la 'musk-deer'.

43. PN *^sEk'u 'water, drink' (OS 139: Pa *āk- 'flow' should be added): SC *-qV 'fluid, drink' (ST *Ku 'fluid, to spill': PY: Ar. -ag- 'drink': NC *?V-qV 'drink').

44. PN *jela 'bright' *(OS 148) : ST *liaj (~ ~~h~~-) 'gleam, glitter'.

45. PN *k'aíV 'peel; bark, skin' (OS 156: initial k'- because of PA *k'áli-; forms with the meaning 'naked' should be kept apart): NC *q~~a~~V 'bark, skin'.

46. PN *kanpV 'soft excrescence (mushroom; lip)' (OS 158) : SC *k'wVm(P)V 'lip (ST *k(h)am; NC *k'wēm(p')-t'i).

47. PN *karV/*kurV 'crane' (OS 159): SC *q'(w)Vrq'wV id. (OC *g(h)āk^w, NC *q'(w)~~ə~~rq'w^ə).

48. PN *käjwV 'chew' (OS 160) : SC *x9VjV 'bite' (ST *k(h)aj, NC *?V-9V-).

49. PN *kENV 'know' (OS 163) : ST *qēn 'see, know'.

50. PN *kirHV 'old' (OS 165) : ST *Kri 'old'.

51. PN *koja 'moth, grub, worm' (OS 167): SC *gwVjV 'worm' (ST *ghw^ə (~ khw^ə), PY *kVj).

52. PN *kojHa 'fat; healthy, alive' (OS 168) : SC *9wVjV 'thick' (PY: Ket. qōj, NC *?V-9wV-).

53. PN *kojw/a/ 'birch' (OS 170): PY *~~x~~^fw- 'birch bark'.

54. PN *koL^V 'peel, bark' (OS 171; *kol-YY in Dolg. Soch. 363): SC *q'wA^HV 'bark, skin' (ST *qhrōw (~ kh-), PY: Ket. qōl 'dandruff', NC *q'wa^HV 'bark').

55. PN *kOři 'lamb, sheep' (OS 174): SC *k'wAr-NV 'young (of animals), shoot (of plants)' (ST *kruŋ (~ q-) 'be born; shoot (of a plant)': NC *k'warnV 'young (of animals)'.

56. PN *küjňA 'knee/elbow' (OS 175) : SC *HgVN^V 'knee, leg' (ST *Kon 'thigh, leg', NC *HgenV 'knee, leg').

57. PN *külä 'lake' (OS 177) : SC *k'(w)AlHV 'lake, river' (ST *klū-ŋ 'river', PY *xo[?]l (~ q-,-r) 'bay, creek', NC *k'(w)alHV 'lake').

58. PN *kä/IH/V 'to step, ford' (OS 161) : SC *gA^HV 'step; ford' (ST *9hāl (~ qh-, kh-, gh-) 'ford'; NC *ga^HV 'step').

59. PN *kurV 'swallow, throat' (OS 91: *k- because of IE *gʷ-) : SC *kʷVrV 'throat, crop' (ST *khrōw (~ gh-), PY *gər-Vʒ (~ k-), NC *k'wirV (~ -i-)).

60. PN *küni 'wife, woman' (OS 178) : SC *qWEnV 'woman' (PY *qVm- (~ x-), NC *q(w)änV).

61. PN *kU₄V 'snake, worm' (OS 179) : SC *(wHVR)-kwV₄V 'snake, worm; leech' (ST *p-rūl 'snake', PY *(h)ur₁ol 'leech', NC *wHVR-kwV₄V 'snake, worm').

62. PN *komt'V 'lid (of a receptacle)' (MS 356) : SC *gVm̥tV 'a cover, pillow' (ST *g(h)um, PY *xot- (~ q-), NC *gVm̥tV).

63. PN *kun-če 'nail, peg' (Dolg. Met. 263; -če is probably a suffix as in *pArĀ, *pAr-čV 'finger, nail', q.v.): SC *xq'winV id. (PY *(x)ine 'nail, claw', NC *Hq'winā 'nail, peg').

64. PN *KümTä 'fog, mist' (OS 187): SC *k'wVmHV id. (also metathesized *mHVk'wV: ST *mük 'fog', PY: Yug. xoan 'fog', NC *k'wimHV / *mHik'wV 'cloud, rain').

65. PN *Küt'v 'bind, tie' (OS 188): SC *k'wEtV 'tie, bind; reel' (ST *kʷät (~ gʷ-) 'tie, bind' – here rather than to NC *q'wHart'V-ťV 'belt' as in Gip. 32; NC *k'wetV 'reel').

66. PN *k'ac̥V 'man, young man' (OS 191): WC *qac'a 'man'.

67. PN *k'adV 'interweave (twigs), build' (OS 192): SC *q'Vm̥dV 'fence, wall' (ST *Kat 'fence; room', NC q'ẽmdə 'wall').

68. PN *k'ala 'leave, stay' (OS 194; *k'al-ya in Dolg. Soch. 358): NC *?i-łgwVn- (~ *?i-gwVl-) 'stay'.

69. PN *k'ap'V 'vessel, pot; scull' (OS 195): SC *qAp'V 'vessel' (OC *khāp, PY *qä(?)p (~ -b) 'boat', NC *qāp'a 'vessel; boat')

70. PN *k'äcā 'cut' (OS 196) : SC *q'ac'V 'cut, divide' (ST *qät 'cut, divide', NC *q'ac'ť 'piece, part').

71. PN *k'ärV 'bind (tightly)' (OS 197) : SC *-qVrV 'plait, weave' (ST [with metathesis] *rāk 'plait, weave', NC *?V-qVr- 'weave').

72. PN *k'ErdV 'heart, breast' (OS 200) : NC *kirV 'breast; belly'.

73. PN *k'oíV 'round, roll' (OS 202) : SC *gWVI(g)V id. (ST *kʷ(r)eť 'roll, wind', NC *gʷēlgV 'round').

74. PN *k'uλa 'secret, steal' (OS 204; *k'uł/-y/ V in Dolg. Soch. 364): SC *-gwVIV 'hide, steal' (ST *kol (~ q-, -j) 'hide', NC *?i-gwVI- 'loose, steal').

75. PN *k'Ut'V 'small' (OS 205) : NC *kot'V 'short'.

76. PN *k'ajwV 'dig' (OS 209) : SC *-xqVwV id. (ST *gəw, PY *?uk- (~ -g-), NC *HV-qwV-).

77. PN *k'aLi 'rise, high' (OS 210): NC *?ə-lqV (?ə-qVIV) id.

78. PN *k'ap'a 'cover, close' (OS 212) : ST *gāp, 'cover'.

79. PN *k'ar/ä/ 'black, dark' (OS 213) : NC *k'ərV 'black, coal'.

80. PN *k'arV 'rock' (OS 216): SC *g̥wVrV 'stone' (ST *Kor, NC *g̥wērV).

81. PN *k'arā 'bark' (OS 217) : NC *k'ərī 'bark, shell'.

82. PN *k'awingV 'armpit' (OS 220): ST *qhōŋ 'hole, gap'.

83. PN *k'ä/IH/ä 'tongue, speak' (OS 221) : NC *?V-gwVI- 'speak'.

84. PN *k'äp/ä 'paw, hoof' (OS 222): SC *xwHabV 'paw, leg' (ST *k(h)ap 'crotch', PY: Ket. qop-ku 'calf (of leg)', NC *xwHabV 'paw').

85. PN *k'EñU 'empty, light' (OS 226): ST *khian (~ gh-) 'light, thin'.

86. PN *kErV 'horn' (OS 227; *k- rather than *k'- because of PK *kr-): SC *qwVrHV 'horn' (ST *Kruā (-ŋ, -k), PY *χɔ?, NC *qwā(r)HV).

87. PN *k'urV 'plait, weave, knit' (OS 236): NC *?l-mxwVr- 'knit, weave, spin'.

88. PN *k'üjnA 'wolf, dog' (OS 238) : SC *xwEjV 'dog' (ST *qhwi(j), NC *xwe(H)jV).

89. PN *k'ülä 'kin, community' (OS 239) : SC *(H)λ'jwVtV 'root; kin, tribe' (ST *t-ruat 'village, kin', NC *Hλ'jwiV 'root; kin').

90. PN *k'üp/ä 'boil, foam' (OS 240): PY *χopVr 'foam'

91. PN *k'UmV 'swallow, devour' (OS 242): SC *q'VmV (~ *g-) 'eat, hold in mouth' (ST *Kuam 'hold in mouth', NC *?V-q'Vm- [-g-] 'eat')

92. PN *k'U/p/a 'heap (OS 243): NC *gwēp'V 'group, heap'.

93. PN *kama (~ k'-) 'husk, shell' (MS 372): SC *kOnmV 'skin, husk' (ST *kuam 'husk, shell', NC *konmo 'skin').

94. PN *k'ulV 'fall' (OS 235); ST *klaH 'fall'.

95. PN *kopV 'bark, rind' (MS 344); ST *q(r)uap 'rind, shell, scale'.

96. PN *k'iwiV (~ -lw-) 'hear, ear' (OS, p.18, MS 366) : NC *?i-likV (~ *?i-kVI-) 'hear'.

97. PN *ko(H)IV 'kill, die' (MS 370; *k- on the basis of PIE *gʷ-[q'- in PK *q'wil- is highly irregular]) : SC *-lqwV (<*qwVI) 'die, kill' (PY *qo- 'die', *-VqV- 'kill'; (PY *qo- 'die', *-VqV- 'kill'; NC *?i-lqwV 'die', *?i-lqwV 'kill').

98. PN *lak'V 'lick' (OS 247) : ST *xiak 'tongue, lick'.

99. PN *luIv 'sleep' (MS 367; only Kartvelian with AA parallels): NC *?lēka 'night'.

100. PN *luńge (*luŋe) 'snow' (OS 354); NC *Hλ'wini 'winter'.

101. PN *lama 'soften, knead' (OS 254); ST *luam 'mild, soft'.

102. PN *ɬ/a/k'a 'leg' (OS 255); SC *EKeV 'leg' (ST *IVŋ 'leg, thigh, bone', NC *ɬákā 'leg, bone').

103. PN *ɬap'a 'flat' (OS 256; Altaic forms with the meaning 'leaf' should be kept apart, see below): SC *λ'Ap'V 'flat' (ST *lēp 'flat, plate, slab', NC *λ'ap'V [~ -e-, -i-] id.).

104. PN *lejna 'soft, weak' (OS 258); ST *neɬ id.

105. PN *ɬiwa 'mud, silt' (OS 259); ST *ləj 'mud, slime'.

106. PN *LaHm/u/ 'marsh, silt, wet' (OS 263); SC *xwHEmV 'wet, liquid' (ST *li(a)m (~ ɬ-), NC *xwHEmV).

107. PN *ɬap'V 'to cover' (MS 356); ST *lup id.

108. PN *lokV 'count, collect' (MS 366) : SC *-lVk'wV 'recite, read' (ST *lōk 'read, tell', NC *?i-lik'wV(n)- 'read, write').

109. PN *Lam-d/i/ 'low, lowland' (OS 264); SC *λan̥V (ST *lan̥ 'lower, down', NC *λanā 'lower part, bottom').

110. PN *L/a/t'V- 'wet, soak' (OS 265); NC *?V-t'Vl- (~ *?V-It'V-) 'to drip, soak'.

111. PN *L/ä/jV 'water, pour (OS 267) : ST lāj 'pour, flow'.

112. PN *lajp'V 'leaf' (this root is to be strictly kept apart from PN *ɬap'a 'flat' and *lop'V 'to peel') : SC *λ'ApE 'leaf' (ST *xēp (/ *lap), PY *jēpe, NC *λ'api)

113. PN *Lop'V 'peel, peeled bark (OS 268) : ST *lep (~ λ'-) 'to peel, to slice'.

114. PN *majrV 'young male' (OS 277): NC *mīr̥XV 'male, man'.

115. PN *manV 'stay, stand still' (OS 287) : NC *?i-ma(n)- 'stay, be' (PL *?i-ma-, HU *mann-).

116. PN *m/o/nV, *m/o/ngV 'many, big' (MS 348, OS 280) : ST *māŋ 'many, big'.

117. PN *manu 'think' (OS 281): SC *nVmHV id. (ST *ńVm 'think', PY *?a-n-/t/ŋ 'think, mind').

118. PN *marja 'berry' (OS 282): NC *merHV id.

119. PN *mALV 'mountain' (OS 286) : SC *mUHAIV 'mountain, hill' (ST : KC *mual; NC *mu^alV).

120. PN *mälgı 'breast, milk' (OS 291): NC *nheλ'V 'milk'.

121. PN *mänV 'man, male' (OS 292) : SC *mVn-xV id. (ST *nēm 'man, person', PY *pix- 'man', NC *mVnxV 'man, male').

122. PN *mäřá 'moisture, liquid' (OS 294): SC *mar̥wV 'rain, cloud' (PY *pVr 'cloud', NC *mar̥wV 'rain').

123. PN *meríV 'fat, smear' (OS 296) : ST *mar 'fat'.

124. PN *mEwV 'water, moisture' (only IE: Altaic forms should be kept apart. See OS 298) : SC *HmEHwV id. (ST *moj, NC *hmēhwā 'moisture, liquid, pool').

125. PN *miňá 'woman, female relative' (OS 301): ST *nam 'sister-in-law, daughter-in-law'.

126. PN *moL V 'break, crush' (OS 302): ST *mial id.

127. PN *murV 'crush, pound, break' (OS 310): ST *muar 'bite, gnaw'.

128. PN *mVt'V 'worm' (OS 312): NC *bet'V (? *bemt'V) 'worm'.

129. PN *mVnžV 'luminary' (OS 313: only Kartvelian *mz̥e 'sun' is listed (together with AA forms), although it seems highly probable that PIE *mēn(ə)s- 'moon' also belongs here) : SC *wVmč'V 'moon' (OC *ŋwat, PY *?Vsuj, NC *wəmč'o).

130. PN *nojmV 'name' (OS 317; Altaic *njoVm- 'name; spell, tale' should be added): ST *mainj 'name'.

131. PN *ńámV 'grab, take' (OS 319) : ST *ńVm id.

132. PN *ńámV 'soft' (OS 195): ST *nēm id.

133. PN *nä/wH/à 'hair' (OS 322): ST *nVj id.

134. PN *níla 'wet, slippery' (OS 325; cf. also *ño/H/LV 'slime' in MS 365): ST *nāl (~ n-) 'mud, slime'.

135. PN *nika 'neck, back of head, vertebra' (OS 330; *-k- and not *-k'- on the basis of both Uralic and Altaic reflexes): SC *nVqwV 'back' (ST *nuk /-ŋ 'back, spinal vertebra', NC *naqwV 'back, behind').

136. PN *purčV/*pūlčV 'flea' (OS 338, with several irregularities) : NC *bēlžwi 'gadfly, wasp'.

137. PN *mVnV 'miss; be vain, false' (OS 357) : ST *mōn 'dull, blinded, confused'.

138. PN *pałyV 'a fortified dwelling' (OS 368; *p- on the basis of Altaic forms): SC *bUl̥'V 'house, home' (ST */p/ūk, NC *bUl̥'V).

139. PN */Pa/se 'membrum virile' (OS 371; according to Mudrak, the Eskaleut reflex of this root speaks in favor of *p-) : SC *bVc'V (PY *b?s 'penis', PL *pīc' 'Schamteile').

140. PN *paíkV 'foot' (OS 361; *-q- in PK is probably secondary) : SC *bol(V)k'wV 'leg, leg bone' (ST *phol 'ankle, calf (of leg)'; PY *bul 'foot, leg', NC *bolV^kwo [this comparison seems more likely than that in Gip. 28])

141. PN *pArä, *pAr/č/V 'nail, claw, finger' (OS 362) : SC *bArV (~ *p-) 'claws, paw, cupped hand' (ST *Par, PY *pər).

142. PN *pälgi 'belly, intestines' (reconstructed on the basis of PA *päl(V)gi 'belly, intestines' and PIE *bhelgh-) : SC *bHEλ'V 'intestines' (ST *Pik, PY *přhl, NC *bheλ'V).

143. PN *p'ář/a/ 'split, break' (OS 339): ST *phraj 'split, divide'.

144. PN *p'iywV 'fire, heat' (MS 352) : SC *-pVHV (~ b-) 'heat, burn' (ST *pū (~ b(h)-) 'burn, roast, boil', PY *(?a)pV- 'heat, hot').

145. PN *p'erV 'bear, produce' (MS 361): ST *p(h)ria-ŋ id.

146. PN *p'unčE '(body) hair' (OS 365) : NC *pen/c'/V 'eyebrows, eyelashes'.

147. PN *p'AtV 'vessel, receptacle' (MS 366) : SC *pAt'wV id. (ST *PUt 'a big basket', NC *pat'V 'vessel').

148. PN *p'ułV 'aspen, poplar' (MS 369): SC *pHVtV id. (PY *(h)tV
 'aspen', NC *pHtV 'aspen, poplar').

149. PN *p'ut'V 'hole, vulva' (MS 340) : SC *pVt'V id. (ST : LB *pytx,
 NC *pət'i).

150. PN *p'ołV 'child' (MS 360) : SC *pUjV (ST *Poj 'be born, child',
 PY *pu?- 'child', WC *pV 'son, daughter').

151. PN *Pe(n)čV 'pine-tree' (Terentiev 1979:160): SC */p/inst'wV
 'resin' (PY *pi?t 'glue', NC */p/inc'wV 'resin').

152. PN *p'arV 'fly' (MS 346) : SC *pUrV id. (ST *phur /*bh-), NC
 *purV).

153. PN *p'ułV 'blow' (MS 339): SC *pOHwV id. (ST *bhu(H), PY
 *-pV, NC *pohwV).

154. PN *p'enV 'bitch, female' (MS 366) : SC *pEnHV (~ *b-)
 'female' (ST *p(h)ij 'female', *p(h)in 'woman', PY *pəŋ
 'female').

155. PN *p'ar(H)V 'bee' (MS 358) : SC *pVrV id. (ST *P/r/aH 'bee',
 NC *porV 'bee; butterfly').

156. PN *p'a/rj/V 'spread, scatter' (MS 369): ST *phra id.

157. PN *p'äk'V 'hot, heat' (MS 337): SC *PVgwV id. (OC *bhākʷ
 'expose to the sun', PY *bo?k 'fire').

158. PN *p'e/H/jV 'sickness, sore' (MS 331): ST *PijH 'scab, head
 sickness'.

159. PN *p'alV 'many; full (MS 348): ST *p-lai-ŋ 'full'.

160. PN *ručV (~ -č-) 'destroy, tear, break' (MS 358) : SC *rVč'wV
 id. (ST *r/a/t, NC *?a-rč'wV-).

161. PN *rV(h)bV 'emotion, agitation' (MS 334; only IE with AA
 parallels): ST *rap 'afraid, frighten'.

162. PN *rowV 'dig, gouge, chop' (MS 362) : ST *rəw 'dig'.

163. PN *Sa(w)k'U 'sap, resin' (MS 366): SC *śwVnq'V 'ink, dye-
 stuff' (ST *smāk (/ -ŋ) 'ink', PY *suK 'dye, paint', NC *śwānq'i
 'ink, gum').

164. PN *sVwV 'liquid, drink' (MS 341): SC *-sdwV 'drink' (PY *ut-,
 NC *?V-3wV-).

165. PN *sun(g)V 'smell' (MS 342) : SC *sunV id. (ST *sun, NC
 *sunV, *sun-t'V).

166. PN *säjV 'bile, pus' (MS 336): ST *chij 'thick liquid'.

167. PN *śa1V 'willow' (MS 343; it would be better to reconstruct *ča(w)IV on the basis of PA *čual/i/ 'willow, branch'): NC *č'wHeli 'willow'.

168. PN *śuλV 'glowing coals' (MS 370; *ʒulýV in Dolg. Soch. 361): ST *s-yü1 id.

169. PN *sVxV / *?VsxV 'blood' (MS 345, PIE-PK; one should probably add PA *sagV 'blood; health'): SC *sVhwV 'soul, breath' (ST *suā 'breathe, live', PY *du?(x) 'smoke', NC *siʔwV 'soul, breath').

170. PN *śarV 'flow, stream, lake' (MS 369) : SC *śOrV id. (ST *śur 'flow, pour', NC *śorV 'lake, river').

171. PN *ś/E/wV 'bear, produce' (MS 361) : SC *ś(V)wV 'bear; son, offspring' (ST *śū 'grandchild, descendant', NC *-iśwV 'bear; son, daughter').

172. PN *śingV 'snow' (MS 366) : ST *śəŋ 'hoar-frost, cold'.

173. PN *śVλmV 'heart' (MS 364) : SC *SiMV id. (ST *siam, PY *sin(V)b-).

174. PN */s/ajrV 'nit, louse' (MS 336): SC *śErV 'louse; worm, helminth' (ST *śar 'louse', NC *ś/ī/rV 'worm, helminth'). There exists also a variant with a suffixed velar both in Nostratic (cf. PA *sir-kä, PU *śa(j)r-kV) and Sino-Caucasian (cf. ST *śrik, NC *śir-kV).

175. PN *täkV 'touch' (MS 369) : ST *t(h)ok id.

176. PN *tel(h)V 'long, stretch' (MS 339): ST *dhel 'spread, stretch'.

177. PN *ter(H)V 'tear' (MS 360) : NC *?V-t'wVr- id.

178. PN *talV 'shake' (MS 369) : ST *tōl id.

179. PN *to/H/V 'give' (MS 338) : NC *?V-t(w)V- id.

180. PN *tu?V 'two' (MS 338): SC *(t')q'wE id. (PNC *(t')q'wE. In ST and PY the original root obtained a nasal suffix and lost the dental element of the initial cluster: ST *k-nij(s), PY *xi-na).

181. PN *t'anV, *t'angV 'stretch, extend' (MS 370) : ST *taŋ (~ d-) id.

182. PN *t'anV 'chop, cut off' (MS 352) : ST *tan id.

183. PN *t'arV 'bald' (MS 347) : ST *ter (~ d-) 'bald, bare'.

184. PN *t'ap'h/a/ 'beat' (OS 349): ST *dhVp id.

185. PN *t'ajV 'louse' (MS 335): NC *t'ah-nā 'nit'.

186. PN *t'äpV 'warm, heat' (MS 338) : ST *tap 'fire-place, stove'.

187. PN *t'umV 'dark' (MS 368) : SC *dwVmV 'dark, black' (ST *t'Vm 'dark', PY *tum- 'black').

188. PN *t'unKV 'lower part of trunk, stump' (MS 344) : SC *dwV(n)q'V 'trunk, beam, piece of timber' (ST *tün (~ d-); NC *dwiq'V).

189. PN *t'urV 'swift, hurry' (MS 332) : SC *t'UrV 'run, hurry' (ST *t(h)ur, NC *?V-t'Vr-).

190. PN *t'o/gV 'fire' (MS 337 : PT *toga – PU *tä/y/V(t) 'fire'; PIE *dhegʷʰ- 'burn' should rather be compared with PA *dakV- 'burn') : SC *tVKwV 'burn, glow, kindle' (ST */dh/ekʷ id., PY *dVk- [~ -g-] 'light, candle').

191. PN *t'Vk'U 'flow, pour' (MS 347) : SC *t'HEk'V 'drop, drip' (ST *tēk (~ d-), NC *t'Hänk'V ~ *t'Häk'V-nV 'drop').

192. PN *t'Vk'V 'plait, weave' (MS 354) : ST *tak 'weave'.

193. PN *t'VrpV 'be satiated' (Sootv. 317) : SC *tV(r)p'V (-b-) 'eat, taste' (ST *thVm, PY *dVbV).

194. PN *t'ap'V 'hit (an aim), pass; guess' (MS 356): SC *dwVp'V (~ -b-) (ST *tuap 'pass, fit; answer'; PY *-tVb- 'ask').

195. PN *t'al/H/V 'flat, level' (MS 355) : ST *thäf (~ *d-) id.

196. PN */t'ajjV 'stone' (MS 343) : NC *λ'aṭV 'stone, rock'.

197. PN *t'älV 'young (of animals)' (MS 359) : NC *λ'äṭhə 'lamb'.

198. PN *TuHlV 'net, catch with a net' : ST *t(h)ol (~ -4) 'net'.

199. PN *gülV 'house, dwelling' (MS 341) : SC *xwVtV 'hedge, fence' (ST *ral, NC *xwəṭV).

200. PN *l/a/pV 'lick' (MS 347; only PIE with AA parallels) : SC *λ'VpV (~ -b-) 'tongue' (ST *hep; PY *?alVp; Hatt. alip).

201. PN *warV 'burn' (MS 341) : ST *war id.

202. PN *weiV 'kill, die' (MS 367: SC *(w)V) λ'V- id. (OC *χij 'corpse'. NC *?i-wλ'V- 'kill, die').

203. PN *wetV 'water' (MS 334) : SC *-t'wV 'water, pour' (ST *tuj 'water', NC *?V-t'wV 'be wet, soak, pour').

204. PN *wiṭV 'wet, soak' (MS 333): SC *-xwV 'flow; drink' (ST *luj 'flow, water': NC *?V-xwV 'drink').

205. PN *wojV 'swim' (MS 355): ST *jəw/*wəw 'float, swim'.

206. PN *xant'V 'front' (MS 354) : SC *HendwV 'forehead' (ST [with metathesis] *thjin, NC *?endū).

207. PN *xot'i 'burn, fire' (OS 343) : PY *xot- id.

208. PN *śVnV (~ š-) 'year; old' (MS 337; *ʒUnE in Dolg. Affr. 167) : SC *swEnV id. (ST *s-nī-ŋ id., PY *sin- 'old', *si(n)-9a 'year', NC *swän(H)i 'year').

209. PN *zeyV 'eat' (MS 340) : SC *ʒVHV (~ *c'-) 'eat, drink' (ST *ʒhaH 'eat', PY *si9- id. NC *ʒaHV (~ *c'-) 'drink').

210. PN *załV 'conceal; cunning, treacherous' (MS 368): SC *ʒVtV (~ *c'-) 'bad, mischief' (ST *cuał (~ *c'-) 'to plan mischief', PY *sel- (~ -r-) 'bad').

211. PN *ʒAhrV 'moon' (Dolg. Affr. 165; PIE *(Ha)ster- 'star' probably should be added): SC *ʒwArHV 'star' (OC *sēŋ, NC *ʒwHär'i).

212. PN *ʒiNV 'night, spend a night' (Dolg. Affr. 167) : SC *HćwInV 'night' (ST *chen (~ s-) 'night, darkness', PY *si(n)-9 'night', NC *HćwīnV (/*HnićwV) 'night, dream').

213. PN *ʒULE 'trunk, tree' (Dolg. Affr. 170) : SC *c'(w)VtV 'tree' (ST *Cəl 'wood, forest', NC *c'əłV 'tree, stick' (or *c'wħħV id.).

PRONOUNS AND PARTICLES

1. PN *mi (*mV) 'I' : SC *ŋV (ST *ŋā (*ŋV), PY *b-, NC *nV(/*mV)).
2. PN *mä 'prohibitive particle' : SC *mV id. (ST *ma, PY *wə-, NC *mV).
3. PN *mu 'this, that' : SC *mV id. (PY *wV, NC *mV).
4. PN *mi 'what' : SC *mI id. (PY *wi/*we-, NC *mV).
5. PN *t'a 'this, that' : SC *tV id. (PY *dV, NC *tV). Cf. also SC *dV 'demonstrative pronoun' (ST *t, *te, PY *t/u/-, NC *dV-'V).
6. PN *?i/*?e 'this' : SC *?i (ST *?i, NC *?i).
7. PN *?a 'that' : SC *?a (ST *?a, NC *?a).
8. PN *šä 'a demonstrative pronoun' : SC *šV id. (ST *še, *ši-ŋ, PY: Ket. śi-ŋ śū-ŋ, NC *šV).

9. PN *k'a/*k'o 'who' : SC *xV 'who, what' (ST *qhā, NC *xV).
10. PN *da 'a locative particle' : NC *-dV id.
11. PN *?e 'a negative particle' : NC *?(w)V id.
12. PN *ja 'which, what' : SC *jV 'an interrogative particle' (PY: Ket. aj 'what', NC *jV interrogative particle').
13. PN *-jV 'a diminutive suffix' : NC *-jV id.
14. PN *-j(V) 'a plural particle' : NC *-jV id.
15. PN *-k'a 'a diminutive suffix' : NC *-k'V id.
16. PN *k'/o/ 'a postpositive emphatic particle' : NC *kVj id.
17. PN *k'V 'a directive particle' : SC *-kV id. (PY *-ga, NC *-kV).
18. PN *-1/a/ 'a collective suffix' : NC *-4V 'a plural suffix'.
19. PN *tA 'a locative particle' : NC *-tV id.
20. PN *-nV 'oblique noun-form suffix' : SC *-nV id. (PY *-n-, NC *-nV).
21. PN *NA 'a demonstrative pronoun' : NC *nV 'this, that'.
22. PN *-NA 'a plural suffix' : SC *-nV id. (ST *-n 'a collective suffix', PY *-n(V), NC *nV).

ABBREVIATIONS

AA	— Afro-Asiatic	
HU	— Hurri-Urartean	
LB	— Lolo-Burman	
OC	— Old Chinese	Dolg. Affr. — Dolgopolsky 1974
NC	— North Caucasian	Dolg. Met. — Dolgopolsky 1965
PA	— Proto-Altaic	Dolg. Soch. — Dolgopolsky 1972
PIE	— Proto-Indo-European	Gip. — Starostin 1984
PK	— Proto-Kartvelian	MS — Illich-Svitych 1967
PL	— Proto-Lezghian	OS — Illich-Svitych 1971-
PN	— Proto-Nostratic	Sootv. — Illich-Svitych 1968
PU	— Proto-Uralic	
PY	— Proto-Yeniseian	
SC	— Sino-Caucasian	
ST	— Sino-Tibetan	
WC	— West Caucasian	

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GILYAK AND CHUKCHI-KAMCHATKAN
AS ALMOSAN-KERESIOUAN LANGUAGES:
LEXICAL EVIDENCE

(PRELIMINARY REPORT)

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Joseph Greenberg has convincingly demonstrated the existence of a language family which he has named Almosan-Keresiouan. It includes Algic, Salish, Chemacuan, Wakashan, and Kutenai; also Caddoan, Iroquois, Siouan-Yuchi, and Keresan (Greenberg 1987:163-5). In northeast Asia there exist the so-called Paleoasiatic language families and separate languages (Eskimo-Aleut, Chukchi-Kamchatkan, isolated Gilyak and Yukaghir), which are not genetically related; they are connected only by their genetic isolation from all of the world's other languages.

At present we are assuming that Eskimo-Aleut is genetically affiliated with the Nostratic macrofamily (and within this macrofamily, they are most closely affiliated with Altaic; compare Mudrak 1984). Yukaghir, apparently, is also a Nostratic language, and is most closely related to Uralic, forming with it the 'Macro-Uralic' branch (compare, for example Collinder, 1940 and 1957).

On the other hand, attempts to make an external comparison of Chukchi-Kamchatkan and Gilyak (= Nivkh) have so far been unsuccessful. Golovastikov and Dolgopolsky (1972) attempted to prove that Chukchi-Kamchatkan is affiliated with Nostratic, but their results were not convincing, mainly because Proto-Chukchi-Kamchatkan had not been reconstructed. (A Proto-Chukchian reconstruction was made by Murav'ëva; compare Murav'ëva 1986. The following PCh forms are cited according to her reconstruction, with some modifications introduced by Mudrak). Attempts to compare Chukchi-Kamchatkan and other languages may also be considered to have been unsuccessful.

Thus far, for the languages of North America only typological similarities have been noted (see Bogoraz 1934, p. 7).

For the isolated Gilyak language no cognate languages have been discovered, although various attempts have been made to link Gilyak both with Chukchi-Kamchatkan (Tailleur 1960) and American Indian languages (Sternberg 1904).

In his paper at the conference *Linguistic Reconstruction and Prehistory of the East* (Moscow 1984) Nikolaev presented a small list of Algonquian-Gilyak lexical similarities. Following Mudrak's reconstruction of Proto-Chukchi-Kamchatkan, a large number of lexical and morphological parallels have been found between Gilyak and Chukchi-Kamchatkan.

Below we give a partial list of lexical coincidences between Chukchi-Kamchatkan and Gilyak, as well as between Algic and Salish, which represent here the Almosan-Keresiouan group. These similarities convince us that Chukchi-Kamchatkan has a genetic affiliation with Gilyak, as well as with Almosan-Keresiouan. Further, these similarities allow us to include Chukchi-Kamchatkan and Gilyak in this language group. We will give a list of lexical parallels between these two languages in a separate publication.

This report can only be a preliminary one, mostly since there are no reliable reconstructions for Algic and Salish (as well as for some others, including Wakashan and Caddoan). Whether to include Chukchi-Kamchatkan and Gilyak in the Almosan-Keresiouan group can be determined only after having made stepwise reconstructions for the proto-languages of all subgroups. Until such time, regular phonetic correspondences between them cannot be established.

Sources in the paper are as follows: Proto-Chukchi-Kamchatkan reconstructions are cited according to Mudrak 1989; Kamchadal forms are cited according to Volodin 1976, Gilyak according to Savel'eva & Taksami 1970; Yurok forms according to Robins 1958; Salish as in Dale Kinkade 1981 (Moses-Columbian), Drachman 1969 (Twana), Laurense-Terry Thompson 1971 (Clallam), Kuipers 1967 and 1974 (Squamish, Shuswap, Kalispel, etc.); Proto-Central Algonquian, Proto-Central-Eastern Algonquian, and Proto-Algonquian forms taken from Bl 25, 46; Ge 41; Go 65, 67a, 71; Ha 58, 67a, 67c; He 73; Mc 35b; Sb 41, 67a, 67b; Sl 60; and Vo 41 are cited according to Aubin 1975.

Note: Please pay attention to this significant type of sound correspondence: PChK t, θ : Gil č(h) : AR k (č) : Sal x, k, X, see examples 42, 84, 106, 113, 125, 157.

1. ARM, ARMPIT. Gil t̪imk 'arm, hand'. AR: PA *-θenkʷē- (Mc 35b.136) 'armpit'.
2. BACK. Gil poku 'hump'. AR: PA *ne-xpeθkwani (Sb 41.300) 'my back', *-pexkwānē- (Mc 35b. 157) 'back'.
3. BACK, BACKBONE. PCh *θilæqæ 'backbone'. Gil n̪-iski 'backbone; mountain ridge', čuk 'mountain ridge'. AR: PA *-tatakākʷ-an-a-k-i (Mc 35b. 152) 'spine'. Salish: Sq s-cəq-ápsm 'back of neck', cq-al-ačn 'lie on one's back', Kal cqal 'lie down on the back'.
4. BAD. PChK *kiH XV- 'bad'. AR: PA *kiHSāt- (HS=hs, ?s, hθ, ?hl, *?l) (Ho 57.261) 'trouble, bad, sorry'. Salish: Cw qəl 'bad', Tw qəlláb / qəláb 'bad'.
5. BARK (of tree). PChK *?ilqə 'bark'. Gil hatx 'cover, shell, rind, peel'. AR: PA *walakēθkwa (Sb 41.299) 'bark'.
6. BEAR (n.) PChK *mečwe 'brown bear'. Gil molk 'bear sp.' AR: PA *maθkwa (Sb 67a.21) 'bear'; W(Ha) þokw 'id.'; ? Y nikʷec 'grizzly bear'. Salish: Sq, ColM míXaɫ 'black bear'. Cf. Gr AK 15.
- ? 7. BEAR, BEAVER. PCh *ümqä 'white bear'. AR: PA *ameθkwa (Sb 67a.25) 'beaver' (cf. semantic correspondence: Sh t'emt' 'beaver', ColM stəm'tám'əl' 'grizzly bear').
8. BELLY. PChK *qaylV 'belly'. Salish: Sq k'ʷəlʔ 'stomach', Cw kʷéłʔə 'belly'.
9. BIG. PChK *pelqə- 'big'. Gil. pil- 'id.'. AR: Y pel- 'id.'
10. BLACK. PChK *kvətxV- 'black'. AR: PA * kaθk- (Ho 57.254) 'black'.

11. BLOOD. PChK *məlmV- (< *məlvə-) 'blood'. AR: PCA *meskwi (Bl 25.141) 'id.'; W(Pr) wətkə?wik 'id.'. Salish: ColM mél'-t 'blood-stained', məłk'áya? 'blood', Sh mítk'ye 'blood'.

12. BLOOD, RED. Gil pay- 'red'. AR: Y pekoy(e)k 'blood', pekoy- 'red'; PA *nepek- / *nipek- (Pr) 'blood'.

13. BLOOD, RED. PChK *šəlxə 'red'. Gil čhoX 'blood'. AR: W(Gr AK 156) say- 'red'. Salish: Sh ciqʷ 'red', c'ibʷ 'to bleed', Sq caqʷ 'to bleed', Tw ?as-c'éq 'red'.

14. BOAT. PChK *Xətvə 'boat'. AR: PA *-ōθ- (Bl 25.139, Pr) 'canoe'; Y (?)oc 'boat'. Salish: Tw ?o?ótXs 'ocean-canoe', Sq wítax 'type of canoe'.

15. BONE. PChK *-?tqəl 'humerus, thigh-bone, rib-bone'. AR: PA *waθkani (Sb 41.299) 'bone'; W(T) watkadót 'id.'; Y (?)wətke? 'bone'.

16. BREAST. PChK *?ləvlə 'breast, chest'. AR: PCEA *nōn- (Sl 60.236) 'suckle'; W(Ha) -rūnoč- 'id.'; Y newon 'breast; milk', newonoc- 'suckle'. Salish: Sq s-?íl-inas 'chest', Ms s-?íl-øs 'id.'

17. BREATHE, WIND. PChK *tvel / *jvəl 'wind'. Gil la 'id.'. AR: Y rōwos- 'to smoke a pipe', -rō? 'pipe', rō-kʷ 'wind'; PA lōwe?θ-, *lōyew- 'to blow, to blow on' (Pr). Salish: Sh s-new-t 'wind', Cda niw 'wind blows', Kal né?u 'to blow'.

18. BURN (tr.) PChK *uyi- 'burn'. Gil ugu- 'set fire, set on fire' (formally caus. from u- 'burn [itr.]'). Salish: Sh yeqʷ- 'light, burn', c-yeqʷ 'fire, lighted; firewood', Sq yəqʷ-, (h)i?qʷ- 'fire'.

19. BURN (itr.), LIGHT. PChK *piŋəj- 'burn (itr), light'. Gil plaju- 'shine, glitter'. AR: PA *pesk-alē- (Ge 41.305) 'fire blazes up'. Other AK cognates see in Gr AK 72.

20. CARRY (ON BACK). Gil yin-//hin- 'carry on back'. AR: PA *nay- 'carry on back' (Pr); Y negem- (2nd pers. imper. ne?gec-) 'take, carry (a load)'.

? 21. CAT. Gil khisk 'cat'. AR: PA *kāšakēnsa (Ho 57.255).

22. CHARCOAL, BLACK. PChK *vəlqə- 'black; charcoal (PCh *vułqə- 'darkness, evening', *vəlqə 'charcoal'). Gil v̥ilv̥ila-'black'. AR: W(T) waròg 'coals'; Y lo'og 'embers, coals', lo'ogey- 'to be black, to be dark-colored'. Cf. Gr AK 165.

23. CHILD, MAN. PChK *?Xola 'child (m.)'. Gil oyla, GilS eyl-ŋ 'child, son'. PCA *ileniwa 'man' (Bl 25.135), PA *ileniwaki 'men' (Mc 35b.155). Salish: Sh s-Xélwe, Kal s-Xélui?, ColM s-Xálwi? 'husband'.

24 COME. PChK *pkəθov- 'come'. Gil ph̥r̥i- 'come, arrive'. Salish: Sh pút'-m 'come out of the bush, emerge from the wood'; CdA p'ut' 'come to the end'; Kal. púL̥əm 'arrive at the end of stg.'; Sq p'əs to land, to go to shore; CdA pa'as 'come to surface'. PCA *py- (Bl 46.120), *pyā- (Bl 46. 110), *pyēt- (Bl 46.122), *pyēθ- (Bl 46.122) 'come'.

25 COOK. PChK *?əpan- 'to cook'. Gil ph̥ngaj- 'id.'. PAR: W puw- 'id.'; Y pem- 'to cook', peya'r 'to cook over an open fire'; PA *apwāni (Go 65.210) 'to roast', *apwāna (ibid.) 'bread'. Salish: Sh p'iix-m 'fry; brand (cattle)'.

26. CRADLE. Gil čaq 'cradle'. AR: PA *tehkinākani (Go 65. 218) 'cradleboard'.

27 CUT. PChK *?axt- 'cut, slit'. Gil yit-//hit- 'dissect, slit'. Salish: Sh xʷit'- 'cut up, cut out', Kal xʷL̥ 'whittle'.

28. DANCE. PChK *mə?la- 'to dance'. AR: PCA *nímyiwa (Bl 46.109) 'id.'. Salish: Sq míta? '(Indian) dance; to dance', Cw mít 'winter dance'.

29. DAY. PChK *θXalvV 'day'. Salish: Sq s-kʷáyl 'daylight', day', Wn s-kʷéyəl 'day', Tw ?as-kʷéł? 'sunshine'. AR: PA *Kíš-'day, sky' (Ha 67a.63), W(T) kačhóhy 'daytime'; Y kecoy- 'to be daylight', kecoł 'day'.

30. DAY. Gil muv̥ 'day'. AR: PA *wāxkam- (Go 71.141) 'bright, clear; day'. Salish: Sq nuqʷ 'noontime', s-néqʷ 'noontime', s-néqʷ-m 'sun'.

31 DEER. Gil thoX 'elk'. AR: W(Ha) hołakw 'caribou'; PCA *atehkwa (Bl 46.105) 'id.'. Salish: Cl s-tiqíw?, Tw s-teqéw 'horse'.

32. DEER. PChK *qorə 'caribou'. Salish: Tw s-q'q'éle 'elk'.

33. DEER. PCh *Ləmna (L < PChK *l, *t, *č *š) 'male deer'. Gil čholni, GilS tlani 'deer'. Salish: Kal, ColM s-cútəm 'bull'.

34. DISH, SCOOP. PChK *ʔəmlək 'scoop'. AR: PA *welākani (Vo 41.146) 'dish, bowl'.

35. DOG. PChK *lXeymV 'puppy'. Gil qan 'dog'. Salish: Sq s-qʷmáy[?], Cw, s-qʷméy, Tw s-qʷəbáy[?] s-qʷbá?e 'dog'.

36. DOG PChK *XəšXə 'dog'. Gil qaX 'lead dog (in a team)' Salish: Sh s-qeXe, Cl s-qéXə? 'dog'.

? 37. DOG / SEAL. Gil lanj-r 'seal'. AR: PCA *aθemwa (Bl 41.293) 'dog', PA *aθemwehsa (He 73.157) 'id.'

38. DRINK. PChK *?iml- 'to drink'. AR: W(T) badoč- 'to drink' Y menokʷolum- 'to gulp down'; PCA *menwa (Bl 46.98) 'he drinks (it)'.

39. DRY. PChK *?kərx- 'dry'. AR: PA *kāhk- (Go 65.215) 'dry', *kāsk- (Ho 57.255) 'id.'. Salish: Sh q'iX-t 'strong, hard, tough', CdA q'eX 'be frugal, grudging'.

40 DRY. PCh *pəča- 'dry (v.), be thirsty'. AR: PA *pānkʷ- 'dry'.

41. DUST. PChK *piŋpiŋ 'ashes'; Gil phliŋy 'id. soot'. Salish: Sq pəkʷ 'form puffs or clouds of dust, smoke, spray', Cw s-pkʷəm 'dust'; AR: Y penkʷ 'acorn flour', *penkʷ-ei- 'to be eaten hollow by bugs', PA *penkwi 'ashes, powder' (Ge 41.306).

42. EAGLE. PChK *θilmə 'eagle'. Gil čham 'id.'. AR: PA *keliwa (Ho 57.256) 'id.', *kenliwa (Pr); W(Ha) koʷwal-iť 'hawk'; Y knū 'hawk'.

43. EAGLE, HAWK. PChK *p?ətqV (~ pX-) 'sea eagle'. Gil phisk 'kite (bird)'. PCEA *pišwka / *peškwa (Sb 67a.16) 'night-hawk'. Salish: Sh s-piqʷ, Sq, Cw piq 'nighthawk'.

44. EAR. PChK *vilvi- 'ear', *valV-mjV- 'hear'. Salish: Sq q'wél-aʔn, Cw q'win[?], Ch q'wéwəl, Tw q'wəlláde(h) 'ear'.

45. EAT. PChK *?*nu*- 'to eat'. Gil iñ-//ñí- 'id.'. PCA *-am (Bl 46.113) 'by mouth, eat, bite', *amw- (Bl 46.110) 'eat'. Salish: Sh mt-əs 'feed', CdA æm(-t) 'share food', Kal ?em? 'to feed', ColM ?émt-ən 'to feed'. Cf. Gr AK 59.

46. ELBOW. Gil ton̥k 'elbow'. AR : PA *ne-toškwani (Mc 35b.137) 'my elbow'; W(Ha) βatuk 'elbow', cukr- 'do with elbow'; also PA *-htōškwani (Ge 41.309) 'elbow'.

47. EYE. PChK *?*ləla* 'eye'. Gil nax 'eye', ni-saX 'tears' (-saX 'water'). AR: W(T) balid 'eye'; Y -lin 'id.'. Salish: Sq qlúm? 'eye', Cw qéləm 'id.'. Cl qéyəŋ? 'id.'

48. FACE. Gil η-iñk 'face, muzzle'. AR: PA *-inkw- (He 73.154) 'face, look'.

49. FAT PChK **qwalqwa(l)* 'fat, grease'. AR: PA *wīlenwi (Mc 35b.164) 'fat'; Y wel 'fat' (noun).

50. FAT. PChK *?*məθqə* 'fat'. Gil ηoX 'fat'. AR: PA *mak- (Ha 58.246) 'grease'.

51. FEAR. ? PChK *wečV- 'to fear'. Gil iylu-//kʰlu-//xlu- 'to fear'. AR: PA *kwē?θēwa (Sl 60.118) 'he fears him', PCA *ko?θ- (Bl 46.112) 'fear', *ko?tāčiwa (Ho 57.265) 'he is afraid'; Y ?ekʷeyłpel- 'to be afraid'. See Gr AK 66.

52. FEATHER. PCh *tiñə- 'feather'. ? Gil tup-r / tʰup-r 'feather, down'. Salish: Sh t'emn 'feather, fur, animal hair', Tw t'abéð 'hair'.

53. FIN, ARM. K č'ukč'uk, č'xi- 'fin'. Gil ηi-sk 'id.'. Salish: CdA s-cugʷ-áXən, Kal s-čuw-áXən 'arm'. Other AK corresp. see Gr AK 94.

54. FINGER. PCh *keθ- 'thumb'. AR: Blackfoot -kic- 'finger'; W kisan 'hand'; Y -ketew 'little finger' (Gr AK 93). Salish: ? Twana s-sq'áče(h) 'finger'. Cf. Gr AK 93.

55. FISH. PChK *?*ənčV* 'fish'. Gil čho 'id.'. PA *wāhsıwa, *wāhsehsıwa (Sb 67a.36) 'brown bullhead, eastern catfish, horned pout'.

56. FISH. K ke⁷k'w 'salmon sp.'. Gil k̥hix 'sturgeon sp.'. Salish: Sq s-qiw⁷X, Ms qé⁷wX, Ch qéwəX 'steelhead'.

57. FISH, SALMON. PCh *θəkan 'salmon sp.'. AR: Cree atikk-amēk 'poisson blanc'. Salish: Sq s-c'úqwi? 'fish (generic)', Cw s-c'aqwəy? 'spring salmon'. Gil: tuki 'sturgeon'.

58. FISH. Gil nemla 'fish sp. (kind of salmon)'. AR: PCA *namē- (Bl 46.119) 'fish'; Y nepe⁷wiš 'fish', nepuy 'salmon', nunepew / nunepuh / nunepuy 'fish; food'.

59. FISH EGG. PChK *?ilq 'soft-roe, milt'. ? Gil ɿ-oyeq 'egg'. Salish: Sh ?ek'wn 'fish roe', CdA ík'wul 'id.', ColM ?ák'wəl, ?ák'wən 'fish egg'.

60. FISH-HOOK. Gil k̥herqna 'seal-hook'. AR: PA *mekeskani (*keskani) (Sb 67b.49) 'fish-hook'.

61 FLOAT. PChK *vxi- 'float, swim'. Salish: Sq p'akw 'float', Cw s-p'ə-p'ékw 'id.', BC p'ixla- 'id.'. Other AK correspondences see Gr AK 77.

62 FOAM. Gil post-r 'foam'. AR: PA *pi⁷tēwi (Mc 35b.169) 'froth, foam'. Salish: Sq p'úq'wam 'to foam', Cw sp'aq'wam 'foam'.

63 FOOT. PChK *xəčka 'foot'. Gil ɿ-ičx, GilS ɿ-ačx 'foot, leg'. AR: W(T) bačkóč 'leg'; Y -ckah 'foot'. me-ck-en- 'to be so many feet long'; PA *me-xkātali (Mc 35b.134) 'somebody's feet, legs', *me-xkāti (ibid.) 'somebody's leg', Fox -ska- 'with the foot'. Cf Gr Ak 113.

64. FOOTWEAR. Gil momsq 'women's foot-gear (leathern)'. AR: PCA *maxkesini (Bl 46.106) 'moccasin'.

65. FOX, SKUNK PChK *šiqpučV 'polar fox'. Gil čhoŋsq 'mink'. AR: *šékākwa / *šékānkwa(?) (Ha 58.251) 'skunk'. Salish: Cw spápq-tc'a? 'ermine', M spápq-tc'a? 'weasel (winter)'.

66. FOX. Gil k̥heq 'fox.' Salish: Sh Xw̥bweimx, CdA s-Xweb'w, M s-Xw̥b̥wXw̥b̥w 'fox'. PChK *kəθxəm 'polar fox'.

67. FUR. PCh *iわ-t- 'beard, moustache'. Gil if 'id.' AR: Cree -ipi-w-äy(a) 'le poil'. Salish: Sh wup (root) 'hair, fur, weeds', Kal up 'hair on the body; grass', ColM s-wəp-cín 'beard'.

68. GHOST, SHAMAN. PChK *niŋvit 'soul, god'. AR: PCA *manetōwa (Bl 25.132) 'manitou'. Salish: Sh s-ne'm 'spirit power', Sq s-na'm 'power possessed by medicine-man'. Pug txʷ-dá'ab 'shaman, shaman's power'.

69. GO. K xum- 'go out'. Gil qama- 'run (ab. men)'. Salish: Sh c-kʷúme 'to come out of the water'. Sq kwum? 'go up, go ashore'.

70. GO, RUN. PCh t(ə)kæ- 'go, move'. GilS tloī- (tl < *čl-) 'run (of men)'. Salish: Sh kɪt-, kł- 'come off, come apart, be released', CdA čet 'separate, divorce, part'.

71. GOOSE, DUCK. PCh gałge 'duck'. AR: Y kelok 'goose'; PA *wāpi-kilāhkwa 'snow goose' (Pr). Salish: Sq s-kʷl-kʷéł-c 'loon; long-necked diver'.

72. GUTS. PChK *jixəjV 'guts'. Gil ɿ-ɿu-s 'gut'. AR: Y -yah 'stomach'; PCA *w-iyawi (Bl 46.86) 'his body', PA *w-iyawehsi (Ha 67c.143) 'meat, flesh'. Other AK corresp. see Gr AK 27.

73. HAND, FINGER. PChK *šilx(w)ə 'finger'. Gil čhil'm 'palm'. AR: W(T) -ahšon 'arm'; Y -sen 'id.'; PA *-θenčyē (Sl 60.118) 'finger, hand'.

74. HEAD. PChK *kə-č'i 'head', *čwə-šx 'hair' (lit. 'fur of head'). Gil thix, GilS thax 'forehead'. AR: PA *me-štekwāni (Mc 35b.144) 'somebody's head'; Y təkun, -tə 'head of fish'. Other corresp. see Gr AK 96.

75. HEAD. Gil čoŋ-r 'head'. AR W(T) watbát 'head'; AR PA *-tempē- (Mc 35b.145), *netempi (Mc 35b.142) 'my brain', *-temp- (Pr) 'head'.

76. HEAD, HAIR. K k'im 'hair'. Gil hemi 'temple'. Salish: Cl s-q'wúŋi? 'head', M q'wúm-qən 'id.', Sq s-q'wúmay? 'hair (on head)'.

77. HEAR. PChK *valV-mjV-'hear' (*valV- 'ear'). Gil mi- 'listen'.

78. HEEL. PChK *ʔəkje- 'sole; heel'. Gil iŋgi 'id.'. AR: Cree m-akkwan(a) 'heel' (PA *-nkw- ~ *-skw- ~ *-hkw-).

79. HIP, THIGH. Gil čhińx 'shin'. AR: Y to? 'hip (body p.)'; PA *oθōkani (Mc 35b.154) 'his, her hip'. Salish: Sh s-c'w-xen 'thigh hindquarter', M s-c'u?-xən 'foot, leg'.

80. HOUSE, CAMP. PCh *nəm- 'camp, settlement'. Salish: Sq lam? Cw léləm? 'house'.

81. I. PChK xə-mə 'I' (< *xə-ŋə, cf. Esk borrowing). Gil ní 'I', ní- '1st ps sg (pref.)'. PAR *ne-: PA *ne- 'first person prefix', *ne-t- 'I' (Mc 35b.147); W(T) du- '1st person pronominal prefix'; Y (?)ne- 1st pers. pronom. pref. Salish: Cl n(ə)- 'my', Sq (?)n- 'possess. pref. 1st pers. sg.', -n 'subj. suff. 1st pers. sg.' etc. See Gr p. 54.

82. ICE. PChK *xələ 'ice'. Salish: Sh s-xʷuy-nt, ColM sxʷúyntk 'ice'.

83. INTERROGATIVE PRONOUN. PChK *(m)ənqV 'what'. Gil aŋ 'who'. AR: PCA *awēn- (Bl 46.116) 'who is it'. Salish: Sq ?énča 'which', Cw nikʷeɬ-éñəcə 'where', Ms éñəcə 'id.'

84 JUMP. PCh *təgaj- 'to jump'. Gil čarq- 'id.'. AR: PA *kwāHk- (Ho 57.267) 'to jump'.

85. KETTLE. PChK *kuke 'kettle'. AR: PCA *axkehkwā (Bl 46.96) 'kettle'.

86. KNOW. PCh *ləgäl- 'recognize, get sight'. Salish: Sq t̥q'i?-s 'know be acquainted with', Ms t̥q'əl-əxʷ 'know'.

87. LAND, SHORE. PChK *perxə- 'shore'. Gil ırkɪ 'shore', GilS ırkt̥šr 'id.'. AR: PA *axki (Mc 35b.168), *axkyi (Sb 41.301) 'land'. ? Salish: Sq s-yəXás 'large rock'.

88. LIVER, SPLEEN. PChK *kilime / kłime 'kidney'. Gil čhulŋjir 'spleen (fish-)'. Salish: Tw čəlab 'lungs', š-čəlláb 'liver' (PSal *kəlam ~ -ŋ).

89. LIZARD, FROG. PCh *waməngə- 'triton'. Gil mengaj 'lizard' Salish: R, ColM wárk 'frog'.

90. LONG, BIG. PChK *kələ- 'great, big'. Gil ktl- 'long'. AR: PCA *kenw- (Bl 46.120) 'long' (root); Y kneweʔl- 'be long, tall'; ? W(Ha) kəʔw 'long'. Other AK corresp. see Gr AK 165, Am 171.

91. LOOK. PChK *lil-epV- 'look' (lil- 'eye'). AR: PCA *-āp (Bl 46.92) 'look (suff.)'.

92. LOUSE. GilS hiš̕k 'louse', Gil hisk-r 'nit'. AR: W(Ha) hikw 'louse'; Y mo-hkoh 'id.'; PCA *ehkwa (Bl 46.93) 'id.'

93. LOUSE, NIT. PCh *gəttb- (< *gətg-) 'nit'. Salish: Sh qʷt̕fXe, Kal qtáXwe? 'louse'.

94. MAKE. PChK *-(y)ərki- 'make'. AR W(T) hok- 'id.'; Y hohkum- 'to make, build, repair, cause'.

95. MAN. PChK *?qlə- 'man, husband'. Salish: Sh qlmuxʷ 'Indian; human being', Kal s-qélixʷ 'id.', M s-qəl'tmíxʷ 'man'.

96. MAN, PERSON. PCh *nəməlkən 'Koryak'. Gil n̄ivx, GilS n̄iyvñ 'man, person; Gilyak'. AR: PCA *nāpēwa (Bl 46.107) 'male, man', PA *nāpē- (Mc 35b.135) 'male'; Y pegit 'male (animal)', pegek 'man'. Salish (suffixal): Sh -mx / məx 'people', CdA -mš 'id.', etc. Other AK corresp. see Gr AK 166.

97. METAL, KNIFE. PChK *wala 'women's knife'. Gil vič, GilS wat 'iron'. Salish: Sh s-wl-wlilm 'iron', CdA w'ul'w'ul'ím 'iron, knife', M wəlwəlím 'iron, metal'.

98. MINK. Gil č̕honjsq 'mink'. AR: PA *šānkwēhšiwa (Sb 67a.25) 'mink'.

99. MOSS, GRASS. PCh *məjgə 'moss', *məlgə 'turf'. Gil vaX 'moss'. AR: PA *maškixkiwi (He 73.156) 'grass', *maškyēkwi 'swamp'. Salish: Sq máqʷam 'moss; swamp', Ch qʷām 'moss', Tw báqʷab 'field'.

100. MOUTH. PChK *lpələ 'cheek', *lpəlo- 'to gnaw'. Gil ilm-//hilm- 'hold in the mouth'. Salish: s-pl-u-cn 'mouth', Kal s-pəl-ím'cən 'id.'. Cf also Gil ɬvl̥x 'lip'.

101. NAME. PChK *?əlŋə / *ŋəlŋə 'name'. AR: W(T) wan- 'id.'; Y w-eg-enoy- 'to be named' (-eg- infix); PCA *wīnl- (Bl 46.115), *wīn-t- (Bl 46.115) 'name, tell'. Salish: Sq nəh, na(?) 'name', Cw snc 'id.'

102. NAVEL. PChK *keči 'navel'. Gil kʰélm̥s 'id.'. AR: PA *mečilwi (Mc 35b.136) 'somebody's navel', (Pr.) *wílyi 'id.'

103. NIPPLE. PChK *muθvə (~ -t- -l- -t-) 'nipple'. Gil moč 'fem. breast, bosom'. AR: PA *meθeni (Mc 35b.136) 'somebody's nipple'; W(Ha) βasar 'nipple', (Pr) básəd 'breast' (PAR *meʒV [~ -s-]). Cf AK 32.

104. NUT, ACORN. Gil pulk-s 'acron, bean'. AR: PA *pakāna / -i (Go 65.216) 'large nut'.

105. ONE. PChK *?əknə 'one'. Gil nít 'id.'. AR: PCA *nekotw- (Bl 46.120) 'one'; Cheyenne -noká 'one'; W(T) kuc-, (Ha) ku?c- 'one'; Y koht- 'one', kohci 'once'. Salish: Sh nk'wu?, CdA nék'we?, Sq nač'-, Cl néč'u? 'one', etc. See Gr AK 144.

106. PADDLE, ROW. PChK *teyme- 'to row'. Gil čombi-zombi- 'to row by turns'. Salish: Tw Xʷó'bat 'paddle', Cl Xʷú?nət 'id.'

107. PARTRIDGE. Gil payi 'partridge'. AR: PA *paxpaxkiwa / *paxkiwa (cf. Sb 67a.16) 'partridge'.

108. PITCH, RESIN. Gil č̥oX 'pitch'. AR: Fox šekāhkwa 'pitch', Shawnee šekwaki 'pine logs; chewing gum'. Salish: Sq čəmX 'pitch, resin', Cw céməX 'pitch'.

109. PUS, ROTTEN. PChK *r(ə)qə- 'rotten', *rqəyol- 'pus'. Gil lolq 'pus'. Salish: Sh yʔuqʷ 'rotting, rotten', CdA doqʷ 'wood is rotten', Tw yóqʷ 'rot'; probable comparison with: Sh neq' 'rot', CdA naq' 'organic substance is rotten', ColM náʔq' 'rotten food'.

110. RAFT, BOAT. PCh *timi 'raft'. Gil čom 'raft'. AR: PA *čimān-i (Mc 35b.160) 'canoe'.

111. RAIN. PChK *?tuxV 'rain'. Gil lít 'id.'. Salish: Sq yiq 'to snow', Cw yiq 'it's snowing', cf. Sq ?áʔtqn 'wet snow'.

112. RIVER. PChK *kweyəm 'river'. Salish: Sq Xwam- 'rushing current', Cw Xʷəwm; Ms Xʷəym 'rapids, rushing current in sea or river'.

113. ROAD. PChK *θvi-nəm 'road'. Gil či-f 'id.'. Salish: CdA n-šégwel.
 Kal šu?šuw'é, Sq Šuáł, Pug šagʷt 'road', Cl sút 'door, road', Tw šə?wát 'road, door', ColM xəwäl 'road, trail'.

114. ROCK, MOUNTAIN. PChK *?enmə- 'mountain'. Salish: Sq s-man-t 'stone', s-manit '(high) mountain', Tw sə-bád-ed (3rd sg. possess. sə-bád-es) 'mountain'.

115. ROOT (EDIBLE). PChK *pŋəl- 'root'. AR: PA *oxpenya (Sb 41.301) 'groundnut, potato', PCA *-xpenu- (Bl 46.121) 'tuber, potato'. Salish: Sq s-pán-an-xʷ 'potato-like plant', Wn s-pðn-xʷ 'camas'.

116. ROOT. Gil vizlíx 'root'. AR: PA *wečyēpitki / *wečyēpiski / *wečyēpiški (Pr.) 'root'; Y (?)wəʔɬpitək 'id.'; W(Pr) uwəlápitkəʔ 'id.'. Salish: Sq šáwaq 'carrot', Cw šewəq 'wild carrot'.

117. ROPE. PChK *?viłxə-t 'rope'. ?Gil ovruks, GilS ovrukš̌r '(special) rope'. ?Salish: Sq Xwíł'-m 'rope', Cw Xwéy'l-m? 'id.' AR: PA wiškwē- / *wihkwē- 'wrap with a bundle-strap' (Pr.); Y (?)weskul 'strap', (?)weskʷelekws 'rope of wild grapevine'.

118. RUB PChK *kele- 'to rub'. AR: W(Ha) kłä?- 'to wash'; PA *keθ- (Ho 57.259) 'graze, scratch', *kesi- (Ho 57.258) 'rub, wipe, wash', *kešip- (Ho 57.259) 'itch, scratch'. Salish: Sh qəs-qis-m 'to tickle', CdA qes 'scratch with nails'.

119. SCRAPE, SCRATCH. Gil Xarp- 'to scratch'. AR: PA *kāxp- (Ho 57.255) 'crunch, scrape'. Salish: Sq Xip 'get nipped, scratched, touched (by stg, flying by)', Ms Xéyp'ət 'scratch'.

120. SEA. PChK *Xijxə- 'sea'. Gil kerq 'id.'. Salish: Sq kʷuŁ'kʷ 'salt water', Cw, Ms, Ch kʷaŁ'kʷa 'sea'.

121. SEAGULL. PCh *yaqlə- 'seagull'. Gil qoyla 'big seagull'. AR: Y keg-o's-neg 'seagull'; PA *keyāškwa / *kayāškwa / *kayāhkwa 'id.'. Salish: Sq q'wlítq 'gull'; Ms, Ch q'wlítəq 'big gull'.

122 SEAL. PCh *θəθka 'walrus'. Gil čhuynix 'id.'. AR: PA *äskikwa 'seal' (Go 65.213). Salish: Cl ?ásxʷ, Tw ?ásaxʷ, Sq ?asxʷ 'seal'.

123. SEE. PChK *[?]laXu- / *[?]ətXu- 'to see'. Gil indi//n̄šri- 'see', n̄u- 'look'. AR: PCA *nē- 'see' (Bl 46.120), *natw- 'seek' (Bl 46.122); Y new(-) 'see; allow'.

124. SHAKE. Gil liklik- 'shake (itr.), shiver'. AR: PA *neki- (Ha 58.251) 'to shake'. Salish: Sh nXel- 'be afraid', ColM naXáł 'afraid'.

125. SHAMAN. PCh *θiŋt̪ə 'holy'. Gil čham, GilS čamn̄ 'shaman'. ? AR: PA *čipaya (Mc 35b.146) 'ghost, corpse'. Salish: Sq s-xw̄?úmt̪n̄ 'medicine man', Cw xw̄ən̄?émθət̪ 'shaman's spirit quest'.

126. SHOOT. PCh *pə- 'to shoot'. AR: PCA *pe- (Bl 46.120) 'id.'.

127. SINEW. Gil tonj-s 'sinew'. Salish: Sq *tinx (root), ti-tñ'x 'sinew', CdA tinč 'sinew, muscle', M tínx 'sinew'.

128. SISTER. PChK *[?]ələ(1)kV 'sister'. Gil nanak, GilS nanx 'elder sister.'

129. SIT. PChK *θva- 'to sit'. Gil išrp-//thiv-//šriv- 'id.'. AR: PA *ap- (He 73.157) 'sit'.

130. SKIN. *xilxə 'skin; body'. Gil hal 'body; skin'. Salish: Sq k'w̄l̄áw̄? 'skin (human, fish)', Cw k'w̄éləw̄? 'skin, hide'.

131. SKIN. Gil mosqar 'skin of dried fish'. AR: W(T) wátkoy 'skin'; Y (?)wəskun, -wəs 'id.'; PA *paskw-ēk-en-wi (Ge 41.309) 'tanned hide, leather'.

132. SLEEP. PChK *nyətqə- 'to sleep'. AR: PCA *nepēwa (Bl 46.97) 'he sleeps'; W(Ha) nítw- 'to sleep' (PAR *nekkʷV-).

133. SMOKE. PChK *čqi- 'to smoke' (itr.), *čqičqimə 'smoke'. AR: PCA *θšeθēmāwa (Bl 25.145) 'tobacco'. Salish: Sq Łíqʷm 'to smoke (itr.)', Cw s-Ł'éyəq'əm? 'smoke'. Cf Gr AK 176.

134. SNAKE. PChK *[?]əlxə 'snake'. Salish: Sq ?éłqay? 'snake', Cw ?éłqəy?, CdA ałq'ic'änč 'id.'. AR: PA *aθkōka 'snake' (Sb 41.299), *-askwaya- (Ge 41.310) 'bloodsucker; snail'.

135. SNOW. PChK *pəŋa- '(falling) snow'. AR: PA *meθponwi (Sl 60.236) 'it's snowing'; W(Ha) paroʔ̥ 'snow'; ? Y kipun 'winter'.

136. SNOW. Gil ɿaq-r 'snow'. AR: PA *mexkwamya (Sb 41.301) 'ice'. Salish: Sq máqa?, Cw méqε, Cl ɿáqə? 'snow'. Cf Gr AK 105. PCh *muqə- 'rain; hail'.

137. SNOW. PCh *mulqə- 'the last spring snow'. Salish: Sh t-mukʷ-tm' 'snow on trees', CdA mikʷ 'snow', Kal səməqʷət 'id.', M s-mákʷ-t 'snow on the ground'.

138. SNOW, HAIL. Gil aqm 'hail'. AR: PCA *ākim- (Bl 46.117-118) 'snow; white'.

139. SNOW, WHITE. PCh *kanə- 'snow (spring-)'. Gil qonu- 'white', qana 'snowcap on a mountain', qana- 'white (about cloth)'. AR: PA *kōnya (Ho 57.267) 'snow'.

140. SOFT. PCh *jəθə- 'soft'. AR: Cree yōsk- 'tendre, doux'.

141. SPIT, SALIVA. PChK *(?)hiʔ̥nkwa 'saliva'. PA *sehk̥w-i(?) (Sl 60.236) 'spit'. Salish: Sq təXʷ-, Cw ɬXʷat 'to spit'.

142. SPOON. Gil miyx 'wooden spoon'. AR: PA *ēmeskwāni (Mc 35a.39), *ēmeXkwāna (probably -hkw-) (Sb 67b.49,54) 'spoon'.

143. SPOTTED. Gil tay-f 'spot, stain'. AR: W(Ha) tayalatk- 'spotted'; Y təgəʔy̥k'əʔey- 'be spotted'.

144. SPRUCE, PINE. PCh *tgegev 'larch'. Gil thv̥isk 'spruce'. AR: PCA *šenk̥wax̥kwa (Bl 46.105) 'pine tree'. Salish: Tw c'eq̥pe(h) / q'c'eq̥pe(h) 'fir (-tree)'.

145. SQUIRREL. PChK *ʔ̥ləkw̥IV 'squirrel'. Gil laq-r 'squirrel', olvilak 'flying squirrel'. AR: PA *anyikwa (Go 67a.9) 'squirrel', pelēnikwa (Sb 67a.21) 'flying squirrel'; Y pl̥iʔw-es 'gray squirrel'.

146. STAND. Gil kiþr- 'to stand'. PA *-käpi- (Mc 57.151) 'to stand'.

147. STAR. PChK *ʔ̥əŋer 'star'. Gil uñyr 'id.'. AR: PA *aθankwa (Go 65.211) PCA *aθānkwa (Bl 25.138) 'id.'

148. STINGING INSECT, LEECH. PChK *kəm(V)XV 'stinging insect'. Gil qenax 'leech'. AR: PA *akaskwaya (Sb 67b.49) 'leech'.

149. STONE. PCh *pəlwə- 'metal, iron'. Gil paX 'stone'. AR: W(Ha) p̩atk 'stone, metal'; PCEA *-āpeθkwí (Sb 41.300) 'rock, stone'.

150. STRONG. PChK *kətvə- 'strong, solid, healthy'. ? Gil teqa- 'strong'. AR: Cree kist- 'former / être en tout solide'.

151. TAKE. Gil ye-/ke- 'take, buy'. AR: W(Pr) kh-én 'grasp, hold'; Y ?ekonem- 'to hold, to keep', (Pr) ?ekec- 'to clinch down'. Salish: Sh (c-)ukʷ- 'take, bring, carry', kʷen (root) 'take (hold of), hold (in place)', kʷəl-ən 'borrow', etc. (derivates of PSI root *kʷV- 'take, hold'); probable compar. with PSI *kin? 'touch, catch'. Cf Gr AK 101.

152. TELL, VOICE. PChK *quɬi 'voice; song'. AR: PA *kelaw- (Ge 41.309) 'talk, speak'. Salish: Sh qwel- 'speak, talk', Sq qʷal-qʷəl- 'think; speak', etc.

153. TELL. PCh *wət- 'tell'. Gil it- 'id.'. AR: PA *āt- (Go 65.214) 'id.'

154. THAT. PChK *xu 'that'. Gil ku-᷑ 'that'. AR: W(T) ku 'definite article'; Y ku (article) 'the, that; who, which'.

155. THROAT. PChK *?kəxə(r) 'throat'. Gil qorq-r 'id.'. AR: PA *mehkwēkani (Mc 35b.144) 'somebody's neck', *wehwkēkani (Vo 41.143) 'his neck'.

156. THROAT. PChK *pilxə 'throat'. Salish: Cw məlqʷ 'uvula', Sq məlqʷ 'larynx'.

157. THOU. Gil čhi 'thou', čh- pref. 2nd. pers. AR: W(T) khu- 2nd pers. pronom. pref., khil 'you'; Y k'V- 2nd pers. pronom. pref. ke'l 'you (sg)'; PA *kilawa 'thou' (Ha 87c.141), *k(e)- 2nd sg pref. Salish: Sq ?axʷ, -axʷ predicative clitic, resp. subject suff. 2nd pers. sg.

158. TONGUE. PChK *jilvə- 'tongue'. Gil hilx 'id.'. AR: Y *hipt, me-yp̩ 'tongue'. Salish: Sq -alxʷcał 'tongue'.

159. TOP. PChK *xəʔn- 'top'. Salish: Sh -qin', Tw -qəd, CoIM -qən, Sq -qin 'top'.

160. TREE. Gil čiy-r 'tree; firewood'. AR: W(Ha) -ōti? 'wood'; PCA *-āhtekw (Bl 46.106) 'stick, wood, tree', PCEA *-e[?]tekqw- (Sb 67b.56) 'tree; stick, dry wood'. Salish: Sq s-cəq 'wood, tree, log, stick', Cw θq-ct 'tree'.

161. URINATE. Gil čhu- 'to urinate'. AR: PA *ošeki (Mc 35b.154) 'he, she urinates', PCA *šekiwa (Bl 25.146) 'he defecates'; W(Ha) tik-al- 'urinate'. Salish: Sq sóXʷa? Cw sóXʷa 'urine', Tw sóxʷo 'urine (male)'.

162. WALK. PChK *pejV- 'walk'. Gil vi- 'go', ve- 'run (about animals)'. AR: PCA *-pah-tō (Bl 46.91) 'run'.

163. WATER. PChK *?ičq(w)ə- 'wet'. Gil čhaX '(fresh) water; stream'. Salish: Sh k'ʷət-cəXʷ-ciXʷ 'waterfall', CdA hin-céXut 'stream, river', Sq c-cáXʷm 'waterfall, falls'.

164. WE. PChK *muri 'we'. Gil mer, GilS min 'we'. Salish: Sq n-ímaɿ person. subst. 1st pers. pl., -umut obj. suff. 1st pers. pl., M nəmníməɬ 'we', Tw debát 'we', etc.

165. WEASEL. PChK *?imšiq- (~ -mθ-) 'ermine'. AR: PA *šenkwhesi (Sb 67a.25) 'weasel'. Salish: Sh si-sk' 'gopher', CdA sič', Kal sísc' 'ground squirrel'.

166. WHALE. PChK *yuŋi 'whale'. Gil keŋ / qen 'whale'. Salish: Sq qʷanís, Cw qʷénəs 'whale'.

167. WIFE, WOMAN. PChK *ŋaw- 'female', Gil umgu 'wife, woman'. Salish: Sh nuXʷ-nXʷ 'woman over 12-14 years old', CdA noXnoX 'spouse', etc.

168. WOMAN. PChK *škəvV 'woman (elder)'. AR: PA *eθkwēw- 'female, woman'.

169. WOMAN, GIRL. PChK *ɬani 'girl'. Salish: Sq s-ɬán-ay?, Cl s-ɬáni?, Tw s-ɬáday 'woman'.

ABBREVIATIONS

AK – Almosan-Keresiouan
AR – Algonquian-Ritwan
BC – Bella Coola
BL 25 – see Aubin 1975, p. vi-ix.
BL 16 – see Aubin 1975, p. vi-ix.
CdA – Cœur-d-Alène
Ch – Chilliwank
Cl – Clallam
CoIM – Moses-Columbian
Cw -Cowichan
Esk – Eskimo
Ge 41 – see Aubin 1975, pp. vi-ix.
Gil - Gilyak (= Nivkh), Amur dialect
GilS – Gilyak, East-Sakhalin dialect
Go 65 – see Aubin 1975, pp. vi-ix.
Go 67a – see Aubin 1975, pp. vi-ix.
Go 71 – see Aubin 1975, pp. vi-ix.
Gr = Greenberg 1987
Gr AK – chapter 'Almosan-Keresiouan' in Greenberg 1987.
Ha – Hass 1958
Ha 58 – see Aubin 1975, pp. vi-ix.
Ha 67a – see Aubin 1975, pp. vi-ix.
Ha 67c – see Aubin 1975, pp. vi-ix.
He 73 – see Aubin 1975, pp. vi-ix.
Ho 57 – Hockett 1957
IJAL – International Journal of American Linguistics
K – Kamchadal (= Itelmen)
Kal – Kalispel
Mc 35b – see Aubin 1975, pp. vi-ix.
Ms Musqueam
PA – Proto-Algonquian
PAR – Proto-Algonquian-Ritwan (= Proto-Algic)
PCA – Proto-Central Algonquian
PCEA – Proto-Central-Eastern Algonquian

PCh – Proto-Chukchi-Koryakan
PChK – Proto-Chukchi-Kamchatkan
Pr – Proulx 1984
PSal – Proto-Salishan
Pug – Puget Sound
Sb 41 – see Aubin 1975, pp. vi-ix.
Sb 67a – see Aubin 1975, pp. vi-ix.
Sb 67b – see Aubin 1975, pp. vi-ix.
Sh – Shuswap
Sl 60 – see Aubin 1975, pp. vi-ix.
Sq – Squamish
T – Teeter 1964
UCPL – University of California Publications in Linguistics
Tw – Twana
Vo 41 – see Aubin 1975, pp. vi-ix.
W – Wiyot
Y – Yurok

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RECONSTRUCTIONS

KAMCHUKCHEE ROOTS
Oleg Mudrak

[The following list represents the reconstruction of Kamchukchee (-Chukchi-Kamchatkan) roots by O. Mudrak. According to Mudrak and Niko-laeve, Kamchukchee, along with Gilyak (= Nivkh), is related to Almosan-Keresiouan, a phylum of Amerind (in Greenberg's terminology). According to Dolgopol'sky, Greenberg, et. al., Kamchukchee is related to Nostratic.

See the table of Kamchukchee phonemes at the end of the list. -V.S.]

*(m)əŋqa 'what'
*-yərki- 'to make'
*-əlxəɬa 'to be similar'
*-twa- 'to win'
*?(ə)tuxa 'rain'
*?čai- 'far'
*?ečxə- 'light,white'
*?exrə-,*exrə- 'ebb'
*?elwə-,*e?lu- 'to gather'
*?em 'only'
*?erxa-*erxa 'meat,boiled fish'
*?erxe 'shore'
*?etal-mən 'southern, valley peoples'
*?ewxəkə 'wild lily'
*?ewiv- 'to rise (itr.)'
*?eymaq 'soup,bouillon'
*?ŋəlŋə 'name'
*?ŋəlxin,*ŋətŋ- 'fish-net'
*?ŋərəŋa 'on the outside'
*?ŋərkətə- 'to be ashamed'
*?ŋəθə-,*əŋθə- 'to come out'
*?sətχə,*səlxə 'red'

*?χeqə- 'bad'
*?χeyluči 'doll'
*?χaka-,χaka- 'hot'
*?χəməθqʌ,?məθqʌ 'fat(n.)'
*?χo(y)la 'boy,lad'
*?a?wənwa 'hole,window'
*?a?wotxʌ 'nest'
*?ačqə- 'lame;to limp'
*?anya- 'to command'
*?alpən- 'to repair'
*?apłaqəl- 'to sneeze'
*?arxe- 'to undress'
*?avjala 'sack'
*?axta- 'to cut'
*?ayp- 'to close'
*?aywa-?aywa 'brain'
*?ayxəvʌ 'north'
*?ačja- 'to string,to thread'
*?ačx,?ačxa- 'they'
*?aŋer 'star'
*?aŋqʌ- 'hunting'
*?aŋqi- 'illness'
*?ajvəkɪ- 'to strike,to beat'
*?ajxi- 'to smell'
*?akje- 'sole,foot'
*?aknə-n 'one'

*?əl?əχjə 'mother'

*?əl?əwju 'nephew'

*?əlni 'very'

*?əlqʌ- 'cold'

*?əlwə-?əlwə 'caribou'

*?əlxə-?əlxə 'snake,worm,terpillar'

*?ət?əx 'father'

*?ətxu-,?laxu- 'to see,to look'

*?ətu-?ətu 'salmon sp.'

*?ət̪wʌ 'friend,other man'

*?əm- 'deep'

*?əmə-ŋ 'all'

*?əməj- 'to leave'

*?əmajku- 'light,easy'

*?əmatqʌ- 'scoop,dipper'

*?əmjə- 'bitter'

*?əmjə-?əmjə 'ashberry'

*?ən,?ən- 'he'

*?ənčʌ 'fish'

*?ənə- 'this'

*?ənəm- 'village'

*?əpan- 'to cook'

*?əpan-?əpan 'boiled food'

*?ərət,?ərci- 'bow,gun'

*?ərxəθək 'tomorrow'

*?əθə?nə 'den,lair'

*?əy/ə?nʌ 'brother'

*?aytəx- 'sweet'
*?aym(ə)l- 'soft'
*?ayt-,yət- 'to bring in'
*?i?n'emθə- 'patch'
*?ičq(w)ə- 'damp,sodden'
*?ijək 'a kind of edible root,makarsha'
*?ikəm- 'short'
*?ilq-?ilq 'milt,soft-roe'
*?ilqə-?ilqə 'bark'
*?ilxə- 'to wash,to wipe'
*?iixəθ- 'to wash oneself'
*?iməθ 'load'
*?iml- 'to drink'
*?imla 'water'
*?imθ- 'to carry on the back'
*?imθəq,?imšaq 'ermine'
*?inan-luxə- 'to show'
*?iprə-,?ipja- 'to splash'
*?iθχə 'slippery'
*?it- 'to be'
*?ita 'when'
*?itmə- 'rough,bald'
*?ivθə- 'low'
*?iwəl- 'long'
*?iyəqə- 'terrible'
*?iykar- 'to thist;bitter'
*?jərθə- 'red'

*?jax-?jax-,?jax-?jax- 'to tickle'

*?jili- 'to choose,to select'

*?jimja- 'dense,thick'

*?joxəv- 'to meet,to reach'

*?kənə-?kənə 'fish-belly'

*?kajxarñə- 'shoal'

*?kerx- 'dry'

*?kəwa- 'to burn(itr.)'

*?kəxə(r) 'throat'

*?kitm 'mosquito'

*?leyavl- 'orphan'

*?lŋi-(-tŋi) 'it's right'

*?lŋu- 'to like,to love'

*?la- 'to say'

*?la(l)ka 'sister'

*?lašva 'brow'

*?ləkwɪn 'squirrel'

*?lał-piń- 'eyelid'

*?lała 'eye'

*?lała-?šxa 'eyelash'

*?lał-?lał 'joint'

*?laqqi- 'dirty'

*?lay-?lay 'dew'

*?linčə- 'heart'

*?linvit- 'to console'

*?lil-epl- 'to see'

*?lilə 'mitten'

*?imalə- 'to believe'

*?ipit- 'to bite,to gnaw'

*?luvlu-,?lu?lu- 'breast,nipple'

*?vi- 'to cut'

*?tex- 'together'

*?eqwəθ 'head of animals'

*?takma-?takma 'gills'

*?takjəθ- 'to dive'

*?təta- 'to regale,to gourmand'

*?tinaθə- 'live coals'

*?tinvi- 'to irritate'

*?timat(ə)q 'crumb,chip'

*?tirma-,?timra- 'danger,angry'

*?iqəl 'bone'

*?make 'face'

*?matu- 'infirm,unable'

*?n'imta-?n'imta 'land,earth'

*?o?θə- 'to call'

*?očkaθ 'mrtle'

*?om- 'warm'

*?omət- 'to bind,to knit'

*?qlə-(-k) 'man,husband'

*?qu?q-(-əl) 'hole,ice-hole'

*?θəl-?θəl 'Mercuris sp.'

*?təlx 'scales,skin'

*?u?we- 'to kiss'

*?utxə- 'soft,swampy'

*?uvika 'carcass,body'

*?uwta-?uwta 'tree,wood'

*?vanša 'broad,wide'

*?vala-?mj- 'to hear'

*?valke- 'to sink'

*?valu- 'small,little'

*?valxa-,valxa- 'thin'

*?vətxət 'rope'

*?vitwa- 'old,decrepit'

*?xəməlxə,?məlxə 'fire'

*?xən'- 'top,heigh'

*?xənni-,?xənni- 'such'

*?xənətxə,?nətxə 'wool,fell'

*?xənkə- 'satisfied,tender'

*?xərxə-?xərxə 'high'

*?xətu 'rib'

*?xu- 'that'

*čerŋə- 'to cry,to weep'

*čašjola 'fox'

*čeŋla- 'to throw (tr.)'

*čeŋta- 'to throw (tr.)'

*čəni- 'to sew'

*čəmla- 'to lick'

*čirka 'knee'

*čivla- 'to drag'

*čjeli- 'to go,to ride'

*čkənvi- 'to bend'

*čqi- 'to smoke'
 *čqičqimə 'smoke'
 *čvoqəra- 'ant,gadfly'
 *čwəšx(ʌ) 'hair'
 *ŋ?əčwə- 'loud'
 *nejku-nejku 'swan'
 *nəlvə 'herd'
 *ŋaw- 'female-'
 *ŋawitŋə- 'wife'
 *ŋay-ŋay 'mountain,rock'
 *ŋat- 'to burn,to smoke'
 *ŋat-ŋat 'smoke'
 *nərkio 'bag,sack'
 *ŋayθea 'two,second'
 *ŋinva- 'many'
 *ŋiθ?ə- 'to hunt'
 *ŋoŋna 'tail'
 *ŋolka- 'slippery icy field'
 *ŋraq 'four'
 *ŋroq 'three'
 *ŋtolʌ- 'to fall'
 *ŋu- 'that'
 *ŋuyčkwə-,ŋvičkwə- 'weak'
 *ŋyelke- 'thunder,crash'
 *ŋyətqə- 'to sleep'
 *ščəlwə- 'knot'
 *šaq- 'which,what'

**Sayla-* 'to slip,to slide,to roll'

**Sələna-* 'to think,to suppose'

**Səpa-* 'pestle'

**Siliq-Sila* 'soup,tolkusha'

**Silxa-, Silwa-* 'danger'

**Sit-Sit* 'wing'

**Siapukə* 'polar fox'

**Skəva,θkəva* 'woman (elder)'

**Swaiŋə-* 'to turn,to return'

**Xax-Xax* 'axe-handle'

**Xai-Xai* 'snow'

**Xatiwa* 'axe,hammer'

**Xarvi* 'rafter'

**Xəcəxəθə,θəcəxəθə* 'road'

**Xən-Xən* 'nose'

**Xənəθə-* 'nostril'

**Xəşxə* 'dog'

**Xəmqa-* 'pester with ...'

**Xəra-Xəra* 'rose willow'

**Xətəma* 'bone'

**Xətvə-Xətvə* 'boat'

**Xix(ʌ)* 'sea'

**Xijxə* 'sky'

**Xiθu-Xiθu, Xisvʌ-Xisvʌ* 'goose'

**Xujamθawilxə* 'person'

**Javal* 'back(adv.)'

**Jilxa-* 'younger brother'

**jile-* 'to give'
 **jilvə-jilvə* 'tongue'
 **jixəjʌ* 'guts,intestine'
 **jkila-* 'to run away'
 **jkū?š-* 'to buy'
 **jo-(-ŋ-)* 'to hide'
 **jqəθ-* 'go away'
 **junaθ-* 'to live'
 **Jvəl, tvel* 'wind'
 **k(ə)mi-?n* 'child'
 **kele-* 'to write;motley'
 **kele-* 'to rub'
 **kelilxən* 'gay-coloured seal'
 **kewə-kewə* 'gristle'
 **keymʌ-, kəlmʌ-* 'to boil'
 **kanta* 'pipe'
 **ka?nəx-* 'to blaze,to fire'
 **kač?e?i, kəč?el?ʌ* 'forehead'
 **kač?ə-n* 'head'
 **kačwə-* 'good'
 **kaččʌ, kə?n'čʌ* 'nest'
 **kažt-kažt* 'navel'
 **kəl-* 'to come'
 **kəlime, k̩ime* 'kidney'
 **kəlyə-* 'bead'
 **kətxi-* 'stingy'
 **kəm-kəm* 'worm'

**kama-* 'clothing'

**kamaxa,kamxa* 'stinging insect'

**kəmxa-,kəxma-* 'to pinch'

**kəθxəm-kəθxəm* 'sabot'

**kətepə* 'mountain goat'

**kata-* 'straight,har,strong'

**kav-* 'to get accustomed'

**kava-* 'to hit'

**kəxəč-* 'hand'

**kayla-* 'great,tall'

**kiləmθa* 'fly,mosquito'

**kitxə-* 'bad'

**kitimθa* 'bumble-bee'

**kuke-* 'kettle;to cook'

**kurxa* 'two,pair'

**kvətqə-* 'dark,black,blue'

**kwamatka* 'chin,lower lip'

**kwəp-na* 'tooth'

**kwaxəlqa-* 'to scrape with claws'

**kwilxə-kwilxə* 'birch'

**kwir-kwir* 'alder tree'

**kwiyem* 'river'

kwuna-kwuna* 'cedar-cone'

**ixeyma* 'puppy'

**ixəʔnəʔtxə* 'withers'

**ixəx-na* 'wolf'

**ixiθe-* 'to gallop,to run'

**ixit-na* 'neck'

**ləmnał* 'tail,story'

**ləx-ər* 'bow'

**lin(ə)l* 'blueberry'

**lin-lin,nił-nił* 'roe'

**lix-lix* 'egg'

**pəl-ṇa* 'cheek'

**palo-* 'to bite'

**piw-,pxiv-* 'to cut'

**qayol* 'ulcer'

**vilə-* 'to drink'

**{(y)ani* 'girl'

**?əṇa* 'roe,fish-roe'

**teməṇa* 'island'

**terə-* 'paint;to dye'

**təxə-* 'sun'

**əmxe-əmxe* 'sack,hood'

**əwan'ʌ* 'foot-wear'

**i?nkwa,?i?nkwa* 'saliva'

**oč-čoč* 'back of the head'

**omčʌ,ymčʌ* 'poplar,red willow'

**xəyt-xəyt* 'sweat'

**xi(j-)kayl-* 'to lose one's way'

**mečkwə* 'bear'

**mel-* 'good'

**meyča-* 'far away'

**ma-* 'where'

**małi-* 'to sweep'

**mama* 'tent'

**maroqələ* 'wild onion'

**ma?la-* 'to dance'

**małma-małma* 'blood'

**mara-mara* 'tear'

**max-max* 'wave'

**mičxə* 'old (man,woman)'

**min* 'which'

**minla* 'hare'

**mil-mil* 'louse'

**milxə* 'berry'

**mit-* 'good,nice'

**mixə-mixə* 'fry,young fish'

**mki,mkin-* 'who'

**moŋra-moŋra* 'palm'

**munkeł* 'lock,clasp,buckle'

**mur,murx-* 'we'

**n'-?ja-* 'to touch'

**n'-axčə-* 'to retain'

**n'-ivčə-* 'to teach'

**n'-yu-* 'to watch over'

**n'ovra* 'den,lair'

**n'u-* 'to eat'

**nene?-* 'young of animal,child'

**nχ(a)la-* 'to become stg'

**nanačə-* 'belly,stomach'

**tale-k-* ? 'to dance' (291)

**tanke-* 'moon;to shine' ()

**tapka-* 'kind of rope' (148)

**taq(ü)-* 'temple,plait' ()

**tawə-* 'wave' ()

**tuðə-,təðə-* 'to trample;foot' ()

**tuɣə-* 'fist;to push away,to strike' (18)

**tu(j)iɣ-* 'snipe' (229)

**tuku-k* 'chief,wealthy person' (2)

**tunj,tani* 'forehead,back of the head' ()

**tupi-,təpi-* 'smell,odor,stench' (169)

**tutə-* 'to hear' ()

**tukeð(i)-* 'to arrive,to land' (110)

**tana-,tuna-* 'spreadfast,firm' ()

**təwa* 'man,body' ()

**wa-* 'here' (14)

**wuɣru-* 'moss' (145)

**wuɣi-* 'to heat' ()

**wuju-* 'brother,younger sibling' (288)

**wula-k* 'bearberry' (257)

**wun'ɪ-* 'story,tale' (297)

**wuze-* 'load' (45)

**wɪʃɪ-* 'to burn;red' ()

**ʒ(i)la* 'weather,air,world' (28)

**ʒ(i)laɣ-* 'wide,broad' (166)

**ʒ(i)n'a-* 'to dream' (136)

**ʒ(i)nə* 'shore,side' (167)

**nəŋət̪x* 'poplar,willow'

**niŋvit* 'God,ghost,spirit'

**njət-* 'to ask,to beg'

**nkəlmə,nkəl?ʌ* 'kernel of a nut'

**nki-nki* 'night'

**nqiw-* 'strength,force'

**p?ətqʌ,pχətqʌ* 'eagle'

**pe?ta-* 'to throw (tr.)'

**pŋəl-pŋəl* 'root'

**pχəθ* 'hole'

**pχon* 'mushroom'

**pə?ila* 'hat'

**panra-panra* 'armpits,groin'

**panša-* 'skin from the deer's feet'

**panza-* 'it's snowing'

**pənlu-* 'to end'

**pəjʌ-* 'to wander,to ramble'

**pækəlar-,kəvlar-* 'haw-thorn'

**pækətar-,kəvtar-* 'haw-thorn'

**pəlq-* 'big'

**pəna-* 'to sharpen'

**pətχo-* 'many'

**pɪŋ-pɪŋ* 'ashes'

**pɪŋaj-* 'to burn,to shine'

**piləŋr-* 'flat'

**pilxə-* 'food,throat'

**pinšə-* 'to throw (itr.)'

**pəθ(v)-* 'to come,to arrive'

**ponta-ponta* 'liver'

**qapči* 'back'

**qayla* 'belly'

**qaytaka* 'brother-in-law'

**qal?e-* 'lazy'

**qəməla-qəməla* 'marrow'

**qərχa-qərχa* 'cape'

**qətla-qətla* 'frozen snow-crust'

**qi?wa-* 'bad'

**qiχwa* 'nettle'

**qiyta-* 'cold'

**qore-* 'deer'

**qpətqə-* 'to beat'

**qu?i* 'other,second'

**quli-* 'voice,cry'

**quixa,kulxa* 'skin (animal's)'

**qunpan'* 'forever,always'

**qunvəš* 'once,forever'

**qup(k)-* 'to be tired,to suffocate'

**quqəl(ə)-* 'to make a hole'

**quyma* 'trousers'

**qvən-* 'thin,narrow'

**qwälqwa(l)* 'fat of animals'

**qwənva* 'pit'

**qwəxla-qwəxla* 'hil,claw'

**rəs?la,rχəs?la* 'sinew'

**rxe-*,*rxe-* 'to enter'

**rərq* 'breeching'

**rəs?ə-rəs?ə* 'lungs'

**rəl-* 'to lie'

**rəq-* 'to rot'

**rɪ-* 'glad,happy'

**rɪt-rit* 'belt,girdle'

**rəqəyol* 'pus'

**rxi̥i-,rxi̥i-* 'inside'

**θənna-* 'to smile'

**θən̥iiv-* 'to smile,to enjoy'

**θəxəlwə-s* 'day'

**θəxə-* 'to pour out liquid'

**θəaki-θ-* 'to smell;odour'

**θəale-* 'to walk'

**θəalva-* 'to burn(itr.)'

**θəatəx-* 'to melt,to thaw'

**θəam-* 'to kill'

**θəmka-θəmka* 'hummock'

**θən'ə-* 'to weigh on'

**θilma-θilma* 'eagle'

**θiθi-* 'needle'

**θkə-* 'to fight'

**θkiv-* 'to spend the night'

**θku-* 'to end'

**θop-* 'to close'

**θvʌ-* 'to say'

*θva- 'to be,to sit'

*θva- 'to sit'

*θvi-nəm 'road,footstep'

*t(a)kəl- 'food,meat'

*tewən-,təpən- 'to worry,to be bored,to get tired'

*teymə- 'to row'

*tnə- 'dawn is broking'

*txətə- 'to urinate'

*txeθ-txeθ 'urine'

*txənəč 'prow'

*ta?la- 'to beat'

*tam-tam 'growth'

*tanna- 'enemy'

*tawɪ-mə 'nomad'

*ta?vxiv- 'to lift,to rise (tr.)'

*tal- 'to make stg from stg'

*təmnə- 'to dissapear'

*təmlə 'near'

*təvla- 'to shake (tr.)'

*təwjan- 'to string at the leash'

*taxla-,ta?la- 'old (man,woman)'

*ti- 'here'

*tinu- 'to pull'

*tirxə- 'sun,moon'

*tkiθ-,čkiθ- 'to remember'

*tunvəx-,tumxə- 'relative,friend,brother'

*tur,turx- 'you'

**tvi*- 'to stand'

**txava-*,*txma-* 'to forget'

**txiliv*- 'to make stg from stg'

**uyi*- 'to burn(tr.)'

**vəxər* 'mouth'

**vəčqə-* 'dark'

**vəlqə* 'black,blue;charcoal'

**vəipa-* 'spade'

**vəta-*,*wəta-* 'work'

**vičwʌ* 'birch sp.'

**vičajʌ* 'grass'

**vixə-* 'to die'

**vilvʌ* 'ear'

**vxi*-,*vxi*- 'to swim,to float'

**weikəθxə-* 'crow,magpie'

**weikwʌ* 'raven'

**wale* 'knife'

**walqa-* 'jaw'

**wayva-* 'to cry'

**wa-* 'to scrape'

**warnik* 'animal'

**wətxə-*,*vətxə-* 'straight'

wəyia-wəyia* 'thimble'

**wi-* 'sour'

wil-či?nkwa* 'slime'

**wiliw-* 'to scoff at'

**wirwi* 'bush'

**wiθvʌ-wiθvʌ* 'salmon sp.'

**wit-wit* 'sea!'

**wjet-* 'to breathe'

**wji-wji* 'breathe'

**xčin-* 'beautiful'

**xe-wiž-əθ* 'sour,rotten'

**xəšwʌ* 'adze,axe'

**xə?jxul-* 'to narrate'

**xəčkʌ* 'foot'

**xəš,xən-* 'thou'

**xəlxə-* 'skin,body (human)'

**xəžxi-,xəžxi-* 'to starve,to grow scarce'

**xəm,xəmn-* '!

**xənv-* 'middle'

**xəθo-* 'side'

**xəθwə-xəθwə* 'lake'

**xətxə* 'autumn'

**xəvxə-* 'stone,rock'

**xil-xil* 'ice'

**xitjʌ-xitjʌ* 'stairs'

**xivəθ-* 'linger;to lag behind'

**xpi-* 'son;slave,servant'

**xtin-* 'good,fine'

**yaqəlʌ* 'seagull'

**yəlxə-* 'wolverine,fox'

**yəqpujχʌ* 'handle,haft'

**yərxə-* 'to put,to pile'

**yinəyən* 'cloud'

**yinərvən* 'bay, shore'

**yuŋi-yuŋi* 'whale'

?	č	e	ŋ	š	χ	a
ə	i	j	k	l	tʃ	m
n	n'	o	p	q	r	θ
t	u	v	w	x	y	

THE RELATIONSHIP OF THE NOSTRATIC FAMILY LANGUAGES:
A PROBABILISTIC EVALUATION OF THE SIMILARITIES IN QUESTION*

Vladislav Illich-Svitych

In order to establish a relationship between two or more languages, comparative linguistics employs the method of identifying morphemes, making distinctions between those with purely lexical, lexico-grammatical, word-formative and formative meanings. In situations in which the compared languages are sufficiently closely related, the relationship is clear from the large number of elements identified. It is further indicated by the existence of a series of systems in the compared languages consisting of morphemes identical in origin, i.e. systems of numerals, pronouns, substantive inflection, verb tense, etc. It is a different matter if the compared languages are assumed to be only distantly related; e.g. the initial linguistic system is separated from descendant systems by a significant period of time. In such cases, we should expect the loss of a significant portion of morphemes identical in origin. The final result of this process is the destruction of the old genetically identical systems of morphemes, and their replacement by new, noncomparable systems.

At the same time, if the relationship between the compared languages is not so distant that the elements identical in origin appear to have been completely displaced, one can expect that a definite, though very limited, number of the most stable linguistic elements in the initial linguistic base, which comprise the core of the morphological, word-formative and lexical systems of language, will be preserved in the descendant systems.

Such a situation can be observed in the comparison of [the six Nostratic families.] Despite sharp differences between the systems of the proto-languages of the Old World, on the proto-linguistic level, it is possible to detect a series of significant morphemic similarities, specifically in the composition of the most stable morphological, word-formative and lexical elements.

*This article is the introduction to *Opyt srovnenniya nostraticheskikhazykov (semitokhamitskii, kartvel'skii, indeoeuropeiskii, ural'skii, dravidiiskii, altaiskii)*, 2 vols. and vol. 3, part 1 to date (Moscow: Nauka, 1971-), vol. 1, 3-5.

On the other hand, when comparing two or more languages known to be unrelated (for example, artificially created languages) there will always be a certain percent of coincidental similarities between morphemes, and the higher the percent, the less strict the criteria for formal and semantic similarities will be. Clearly, a special proof is necessary to show that the similarities found between compared languages are not accidental, but rather point to a distant linguistic relationship. Similar proof is obviously also desirable in studying the similarities between the six linguistic systems under consideration in the present work, e.g., the six proto-languages of the Old World, because the differences between them are so great that the supposed relationship could only be very distant. Toward this end, we propose the following method of evaluating the character of the similarities collected, which is not dependent on the procedures involved in their collection.

We shall examine the similarities between morphemes with lexical meanings that have no descriptive characteristics, and do not belong to any set of frequently borrowed lexicon. We will take the similarities between three pairs, made up of any three of the six proto-languages being compared, for example, between Indo-European and Uralic, Indo-European and Altaic, and Uralic and Altaic. On the basis of material taken from a comparative dictionary, these similarities are in quantities x , y , and z . Clearly, these similarities can be either unmotivated, that is, the result of coincidence, or motivated. In the latter case, they can only be taken to indicate a genetic relationship between each pair of compared proto-languages, since the two other sources of motivated similarity, i.e., borrowing and 'elementary relationship', have been eliminated due to the selection of the similarities. Let us presume that the given similarities are the result of coincidence. In this case, according to the theory of probability, a number of similarities, common to all three compared languages must be close to a number within the limits x to z . The actual number of triple similarities between Indo-European, Uralic, and Altaic is A , i.e. several times greater than expected. Conversely, if this number of triple similarities, A , is the result of coincidence, the number of coincidences between Indo-European and Uralic, Indo-European and Altaic, and Uralic and Altaic must be close to A . This figure is several times greater than the actual number of such coincidences. Thus, by virtue of its own absolute size, it attests to the falsity of the initial premise. The reader can

make analogous calculations for four, five, and six of the six proto-languages under consideration; in each case, the actual number of similarities between three, four, five, and six compared proto-languages will be considerably greater than the size expected as a result of coincidence. Obviously, the distribution of similarities found cannot be explained as coincidence, but is motivated: such a distribution shows that the six proto-languages under consideration are linked by a linguistic relationship.

This conclusion could hardly be refuted by the assumption that, for a sufficiently distant period of time, one can postulate the borrowing of linguistic elements that are not usually borrowed in known languages: names of elementary actions, parts of the body, pronouns, several word-formative and morphological elements. The motivated character of the similarities in the six proto-languages in this case could be explained by borrowing. Actually, one can assume that individual elements from the above list of the most common elements in a linguistic structure were borrowed. But the examples given in this work show that in each proto-language there are dozens of elements covering all areas of linguistic structure that are similar to analogous elements in compared proto-languages. Moreover, despite the distant relationship of the six proto-languages, in the majority of the examples, several of the most stable systems of morphemes that are identical in origin are retained (primarily the systems of personal, demonstrative and interrogative pronouns and systems of substantive inflections). Borrowing on such a scale would practically signify the borrowing of an entire linguistic structure, and its transition to a new language. This brings us, once again, to the conclusion that the proto-languages in question are genetically related.

COMPARATIVE-PHONETIC TABLES
Compiled by Vladimir Dybo

I. Nostratic Consonants

Stops

NOSTRATIC	AA	Kartv.	IE	Uralic	Drav.	Altaic
initial	inter-voc.					

$p\hat{\imath}^*$		p	p, \bar{p}	p	$p-$	$p-$	$p\hat{\imath}-$
- $p\hat{\imath}-$	p	p	p	$-pp\sim-p-$	$-pp\sim-v-$	$-p\sim-b-$	
$p-$	p_1	$p_1(p\sim b)^1$	$p\sim b^1$	$p-$	$p_1-(p\sim v-)$	$p-$	
- $p-$	p_1	$(p\sim b)^1$	$p\sim b^1$	$-p-$	$-pp\sim-v-$	$-b-$	
$b-$	b	b	bh	$p-$	$p-$	$b-$	
- $b-$	b	b	bh	$-w-$	$-?**\sim-v-$	$-b-$	
$t-$	$t^1(t)^2$	\dot{t}	t	$t-$	$t-$	$t\hat{\imath}-$	
- $t-$	$t^1(t)^2$	t^1	t	$-tt\sim-t-^3$	$-t(t)-^3$	$-t-$	
$t-$	t	t	d	$t-$	$t-$	$t-$	
- $t-$	t	t	d	$-t-$	$-t(t)-^3$	$-d-^3$	
$d-$	d	d	dh	$t-$	$t-$	$d-$	
- $d-$	d	d	dh	$-8-$	$-t(t)-^3$	$-d-$	
$k\hat{\imath}-$	$q(k)^2$	\dot{k}	$\hat{k}, k, k\bar{u}$	$k-$	$k-$	$k\hat{\imath}-$	
- $k\hat{\imath}-$	q	k^1	$\hat{k}, k, k\bar{u}$	$-kk\sim-k-^3$	$-k(k)-$	$-k\sim-g-$	
$k-$	k	k	$\hat{g}, g, g\bar{u}$	$k-$	$k-$	$k-$	
- $k-$	k	k	$\hat{g}, g, g\bar{u}$	$-k-$	$-k(k)-$	$-g-$	
$g-$	g	g	$\hat{g}h, gh, g\bar{u}h$	$k-$	$k-$	$g-$	
- $g-$	g	g	$\hat{g}h, gh, g\bar{u}h$	$-y-$	$-i\theta-$	$-g-$	

* The dash indicates the absence of a vowel in the given position.

** Henceforward, the sign (?) denotes that the expected reflex is not determined for a given configuration.

¹ In Kartv. and IE, the reflexes of Nostratic p are found to be unstable.

² In Afro-Asiatic, glottalization occurs regularly in non-lexical morphemes, roots containing p as the second consonant, and sporadically under other conditions still not clear.

³ The reflexes in post-consonant position are the same as in initial position.

Sibilants

NOSTRATIC AA Kartv. IE Uralic Drav. Altaic
initial inter-voc.

s-		š	s	s	ś-	c-	s-
-s-	š	s	s	-s-	-cc-~c-	-s-	
ś-	š	s ₁	s	s-	c-	s ₁ -	
-ś-			s	-s-	-?~c-		
ż-	š	š	s	ż-		[s ₁ -]*	
-ż-	š	š	s	-ż-	-cc-~?-	-s ₁ -	
z- ⁴	š	z	s	s-	c-	ż-	
-z- ⁴							

Affricates

NOSTRATIC AA Kartv. IE Uralic Drav. Altaic
initial inter-voc.

ç-		ʂ	ç	sk̪, sk, skχ	ś-	c-	[ż-]*
-ç-	ʂ	ç		-s-	-ś-	-c-	
c-	s	c		sk̪, sk, skχ	ś-	c-	č-
-c-							
ž-	z	ž					ż-
-ž-							
ć-	ʂ			sk̪, [sk, skχ]	ć-	c-	č-
-ć-		c ₁		-s-	-ćć-	-cc-~c-	-č-
ć-	s	c ₁		sk̪-, sk-	ć-	c	č-
-ć-	s	c ₁		-s-	-ć-	-cc-~c-	-č-

⁴ "The question of reconstructing a voiced sibilant corresponding to *ś should probably remain open. Such a phoneme... appears in a few forms in Kartv. (-I). Only one has a correspondence in AA (where, as usual, we have š): Kartv. *mz₁e 'sun' ~ AA *mš, šmš (redup. *mšmš)." (From the author's material for a comparative grammar.)

*In square brackets, probable but unattested reflexes are given.

Affricates (continued)

NOSTRATIC	AA	Kartv.	IE	Uralic	Drav.	Altaic
<u>initial inter-voc.</u>						
ž-	g	z̄₁			c-	ž-
-ž-	g	z̄₁	-sd-(?)			
č-	t (>s~t)	č̄	st-	č̄	c-	č-
-č-	t (>s~t)	č̄	-s-	-čč̄-	-c-	-č-
č̄-	t̄		st-	č̄-		č̄-
-č̄-	t̄	č̄		-s-	-č̄-	-č̄-
ž̄-	ḡ	ž̄	st-	č̄-		
-ž̄-	ḡ			-č̄-		-ž̄~-d-

Laterals

NOSTRATIC	AA	Kartv.	IE	Uralic	Drav.	Altaic
<u>initial inter-voc.</u>						
š-	š	š̄	s̄	š̄-(~š̄-)	c̄₁-	s̄₁-
-š-	š	š̄	s̄	?-š̄-(~š̄-)	-c̄-(?)	
λ-				š̄'		d-(?)
-λ-	l̄	l̄	l̄	-š̄'	-t̄t̄~-t̄-	-l̄-

Postvelars

NOSTRATIC	AA	Kartv.	IE	Uralic	Drav.	Altaic
<u>initial inter-voc.</u>						
q̄-	q̄	q̄	k̄,[k̄,uk̄]	k̄-	k̄-	k̄-
-q̄-	q̄	q̄	[k̄],k,[k̄k̄]	-kk̄-	-kk̄~-k̄-	-k̄-
q̄	b̄	q̄	[h̄],h,[h̄k̄]	θ̄-	θ̄-;*	θ̄-;
-q̄-	b̄	q̄	H	-k̄-	-k̄-	-k̄~-ḡ-
-ḡ-	ḡ	γ̄	[h̄],h,h̄k̄		θ̄-;	θ̄-;
-ḡ-	ḡ	γ̄	[h̄],h,h̄k̄	-γ̄-	-θ̄-	-θ̄-

* Here and below, the sign : denotes the lengthening of a vowel represented by the preceding dash.

Pharyngeals and Laryngeals

NOSTRATIC	AA	Kartv.	IE	Uralic	Drav.	Altaic
initial inter-voc.						
h-		h		h		θ-
-h-	h	x	h			
χ-	c	h>θ			θ-:	θ-:
-χ-	c	h,θ	h	-k-(?)	-k-(?)	-iθ-
?	s	h>θ	h,h,[hx]	θ-	θ-	θ-
-?	s	h,θ	h,[h,hx]	-iθ-		θ-
h-	h		h,h,[hx]		θ-:	
-h-	h		h,h,[hx]			

Liquids

NOSTRATIC	AA	Kartv.	IE	Uralic	Drav.	Altaic
initial inter-voc.						
j-	j-	j-,θ-5	j-	j-	j-,θ-5	j-
-j-	j		j	j-	-j-	-j-
w-	w	w	u	w-	v-,θ-	(b-?),θ-
-w-	w	w	x	-w-	-v-	b,θ,(v)
r-	r	r	r-	r-	n-	[l-?]
-r-	r	r	r	-r-	-r-,r- ⁶	-r-
-r-	r	r	r	-r-	-r-	-r-
l-	l	l	l	l-	n-	l-
-l-	l	l	l	-l-	-l-	-l-
t-	l	l	l	t-	t-	l-
-t-	l	l	l	-t-	-l-	-l-
-f-	l	-r--;l-	-l-	-f-	-l-	-l-

⁵In Kartv. and Drav., -j- is lost before e, as is expected.

⁶In Drav., r > l in the position before the (now lost) Nostratic second-syllable front vowels.

Nasals

NOSTRATIC		AA	Kartv.	IE	Uralic	Drav.	Altaic
initial	inter-voc.						
m-		m	m	m	m-	m-	m-
-m-		m	m	m-	-m-	-m-	-m-
n-		n		n	n-	n-	
-n-		n	n	n	-n-	-n-, -ŋ-	-n-
ñ-					ñ-	n-	ń-
-ñ-		n	m(?)	n	-ñ-	-ŋ-, -tt-	-ń-
ń-		n		j, n-	ń-		ń-
-ń-		n			-ń-	-ŋ-(?)	-n-(?)

II. Nostratic Consonantal Clusters (with sonants)⁷

Sonants with Bilabials

NOSTRATIC		AA	Kartv.	IE	Uralic	Drav.	Altaic
-CS-*	-SC-						
	-Sp-						
	-Sp-	-Sp-	-Sb~Sp-	-Lp-, Nb-		-Sp-	
	-Sb-						
	-Sb-(-rb-)	-rb-	-rb-	-rp-	-rp-	-r-	-rb-

Sonants with Dentals

NOSTRATIC		AA	Kartv.	IE	Uralic	Drav.	Altaic
-CS-*	-SC-						
	-St-(-Nt-)				-Nt-		-t- (?)
	-St-(-Nt-)				-Nt-		-d- (?)
	-Sd-(-Nd-)			-Ndh-	-Nt-	-n̥t-	-nd-

⁷Laryngeals, pharyngeals, sibilants, and, possibly, sibilant affricates could form clusters not only with sonants, but also with stops in Nostratic; pharyngeals definitely formed clusters with both groups. However, our material is too scarce to be presented in a table format.

* The following symbols are used in the table: C-consonant, S-sonant, N- nasal sonant, L-liquid sonant, : denotes lengthening of a preceding vowel

Nasals with Back Consonants

NOSTRATIC	AA	Kartv.	IE	Uralic	Drav.	Altaic
-CS-*	-SC-					
	-nk-		-nk-	-nk-	-ŋk-	-z-
	-nk-		-ng-	-ŋk-	-hk-	
	-ng-	-m-	-m-	-ngh-	-ŋ-	-ŋ-

Liquids with Back Consonants

NOSTRATIC	AA	Kartv.	IE	Uralic	Drav.	Altaic
-CS-*	-SC-					
	-rk-		-rk-	-rk-		
	-rk-	-rk-	-rg-			
	-Lg-	-Lg-	(*rg>)-rg-	-Lgh	-rk-(1γ)	(rg>)-r-

Sonants with Postvelars

NOSTRATIC	AA	Kartv.	IE	Uralic	Drav.	Altaic
-CS-*	-SC-					
	-Sq	-S-q-	-Sq-	-Sk-	-Sk-	-Sk-
	-Sq-	-S-h-	-Sq-(?)	-S-H-	-S-	-SS-
	-Sg-	-S-ǵ-		-Sγ~γS-	-S-H-	-;S-
	-;S-					

Sonants with Pharyngeals and laryngeals

		AA	Kartv.	IE	Uralic	Drav.	Altaic
-CS-	-SC-						
-hs		-h-S-		-H-S-		-S-	-S-
-S-h-	-S-h	-Sx-~χ-S-	-S-H-	-S-	-SS- (-S-)	-S-	
-ΓS-		-Γ-S-	-;S	-H-S-	-;S-	-;S-	-;S-
-SΓ-	-S-Γ-	-S-					-;Sg-
-?S-		-?S-	-S-			-S-	-S-
-S?-	-S-?-	-S-	-S-H-		-S-		
-hS-		-h-S-		-H-S-	-S-	-;S-	-;S-
-Sh-	-S-h-	-S-		-;S-	-;S-	-;S-	-;S-

Clusters containing j and ω.

		AA	Kartv.	IE	Uralic	Drav.	Altaic
-CS-	-SC-						
-jω-			(ꝑ)-ꝑ-	-jω-	-v-	-v̑-b	
-jl-	(j)-l-		(ꝑ)-l-		-;l-	-v̑-l-	
-jr-	(j)-r-		(ꝑ)-r-		-;r-	-v̑-r-	
-rj-	-r-j-		-r-	-rj-	-;r-	-;r-	
-jn-	(j)-n-		(ꝑ)-ń-(>j,n)	-jn-			
-jñ-			(ꝑ)-n-(<ń ?)	-jñ-	-;n-		
-wd-	(ω)-d-		-ꝑ-dh-	-wδ-	-;t-		

III. Nostratic vowels of a first syllable.

a) East Nostratic Vocalism

East Nostratic	Uralic	Dravidian	Altaic
*a	a	a	a
*o	o	o/a	o
*u	u	u	u
*ä	ä	a	ä
*e	e	e	e
*i	i	i	i
*ü	ü	u	ü/o

b) Nostratic vocalism as reflected in the West Nostratic languages.

Nost- ratic	East Nostratic	Afro- Asiatic	I n d o - E u r o p e a n		
			CVC	KV(C)	
a	a	CC	a,c ~ Ø	C-C ⁸	C-S
o	o	CwC~CC- ⁸	we,wa~(u)	C- <u>-C</u>	C-S
u	u	CwC~CC-	we,wa>o ~u (> Ø)	C- <u>-C</u>	C-S
ä	ä	CjC~CC-		C- <u>-C</u>	C-S
e	e	CjC~CC-		C- <u>-C</u>	C-S
i	i	CjC~CC-		C- <u>-C</u>	C-S
ü	ü	CwC~CC-		C- <u>-C</u>	C-S

⁸In IE the dash denotes the members of the alternating row (e or o or ø), distributed according to the rules of the Indo-European stem. In Afro-Asiatic the dash denotes the spreading of the original root.

THREE ENTRIES FROM THE *NOSTRATIC DICTIONARY*^{*}

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8. **bari** 'to take': Afro-Asiatic *br-* 'to seize, catch' ~ IE *bher-* 'to take, bring, carry' ~ ? Dravidian *per-* 'to pick up, gather' ~ Altaic *bari-* 'to take into one's hands'.

AA || Semitic: Akkadian (Babylonian) *b'r* (pret. *-bār*) 'to catch', *bā'iru* 'fisherman' probably a secondary development from original **br*, cf. Mehri, Shawri *btr* (< **t-br*) 'to fish' (the *t* in Soqotri *bfr* 'to fish' is probably secondary; cf. Leslau JAOS 82.2). || Berber: Tuareg *aber* (pret. *-uber*) 'to seize by the handful'; *-b-* < **-bb-* < **w-b*, cf. Taureg *e-häre* 'goods, property, cattle' without prefixal *w*, which caused gemination and preservation of *-b-* (in *e-häre*, *h* < **-b-* with weakening, as in those cases described by Beguinot RANL 33, 186-199) || Cushitic **brj*: Beja *bari* 'to get, gather, have control'; Saho (Irob, see Plazikowski-Wagner ZDMG 103, 381) *bar-* 'to seize, hold'; Afar (Tajurah, see Lucas JSAfr 5, 198) *ber-* 'to carry away'. || Chadic: Ngala (the Kotoko group) *birre* 'seize'. Cf. Rössler Oriens 17, 215.

IE || OI *bharati*, Avestan *baraiti* 'he carries'; OI *bhāras* 'a catch' || Arm. *berem* 'I carry, bring' || Phrygian *ab-beret* 'he brings' || Greek φέρω 'I carry' (Mycenean 3rd sg. pres. *pe-ne*, see Morpurgo 240) || Albanian *bie* (< **bherō*, cf. the imperative *bierë*) 'I carry, bring' || Latin, Oscan *fer-* 'to carry' || OIr. *biru* 'I carry' || Gothic *bairan* 'to carry, bring' || OCS *berg* (inf. *berati*) 'I take' || Toch. AB *pär-* 'to

^{*}The entries are from volume 1 of *Nostratic Dictionary* (*Opyt srovnenija nostraticheskikhazykov (semitokhamitskii, kartvel'skii, indoevropeiskii, ural'skii, dravidiiiskii, altaiskii)*, vol. 1 (Moscow Nauka 1971)). The translation for entries 8 and 32 was first published in *General Linguistics* 27.1 (1987), 36-7. For references, see *Nostratic Dictionary* vol. 1 107-46

bring, carry'. Cf. Pok. 128-132 (Pokorny's formations with the meaning 'to give birth to, descendants' represent an originally different root – see #32). In light of external comparison, the meaning 'take' in Slavic, usually considered an innovation is revealed to be archaic. From this meaning the IE 'bring' → 'carry' most likely developed.

? Dravidian: 'pick up, gather' || SDDrav. *perukk-: Tamil Malayalam perukku, Toda perk, Kodagu porik- || Telugu pezipi, pežžu || CentralDrav.: Kolami petk-, Najki pett-, Parji ped-, Gadaba (Salur) piž-, Gondi (Adilabad) per-, Konda per-; Kui pebg- (< *peg-b-) || Kurux pes- || See Burrow-Emeneau, 393.

Altaic || Turkic *bary-: OTurkic, OUygor barym 'property' – Azerbaidzhan baryn-, (Gazax) barym- 'to derive profit, obtain advantage'; OTurkish (TS 2,104) baryn- 'obtain for oneself means for existence', Turkish (Edirne) bary- 'to worry, to guard'; MHung. barom, OHung. barum 'cattle' (← 'property') borrowed from OBulgar (Gombocz BTL40-41) || Mong. 'take with the hands, seize' (and latter 'to present to') MidMong., Lit-Mong., Ordos, Khalkha bari-, Dagur bari-, Baoan vär-, Kalmyk bär'-; Moghul bari-; see Poppe Mong. 26, Zirni 89 || Cf. Ramstedt KW 38 (where, as in Ram. 56, there is the assumption of relationship between Mongolian words and Turkic *barjak 'finger'); the semantic development in the Turkic languages was 'take' → 'obtain (property)'.

Cf. Ramstedt JSFOu 53 fn. 1, 23, Dolgopol'sky 12 (IE ~ Alt.). The original meaning 'take' is preserved in Altaic, Dravidian and partly in IE. In Dravidian we apparently see the umlautization of *a > e in the first syllable, influenced by the loss of the front vowel of the second syllable in position after ē (as in Drav. *ēr- 'to rise' < *Horā, #116).

32. **bvrV** 'baby, child': Afro-Asiatic *br* 'child' ~ ? Kartvelian *ber-* 'child'
~ IE *bher-* 'child'.

AA || For Semitic names of a child we ought to reconstruct suppletive forms with *r* in the singular and *n* in the plural: sg. **bir* 'son', **bir-t* 'daughter' ~ pl. **bin* m., *bint* f. The archaic correspondences are preserved in OSArabic (OSArabic *brw* m.sg. ~ *bn* pl.; Shawri sg. *ber* m., *birt* f. ~ pl. *ine*, *unt* < **bne*, **bnt*; Mehri sg. *ber* m., *bort* f. ~ pl. *bīt*, *bant*) and Aramaic (Biblical Aramaic sg. m. *bar* ~ pl. constr. *banī* [actually *baney*]; Egyptian-Aramaic sg. m. *br* ~ pl. *bn-*; Mandaean sg. *bra* m., *brat* f. ~ pl. *bnia* m., *bnat* f.; Urmian sg. *bar* m., *bra* f. ~ pl. *bne*). The form with *-n-* (plural by origin) is generalized in Canaanite (Ugaritic *bn*, OHeb. *bēn* 'son'; Ugaritic *bt*, OHeb. *bat* 'daughter' < **bint*) and Arabic (?*ibn* 'son', *bint* 'daughter'). It is probable that the Semitic verb **br-* 'to give birth to' → 'to create' reflects a denominative formation (similarly, **bnj* 'to create, build' from **bin*): OSArabic *br?* 'to build, do', Shawri *buri*, Mehri *bīru* (impf. ~*brow*), Soqotri *bere* 'to give birth to'; Aramaic, OHeb. *br?* 'to create'; Akkadian **br-:* (OBabylonian) *bāru* (pret. ~*burru*), (OAssyrian) *buāru* (pret. ~*bür*) 'to appear, arise, be constant' || Berber: Tuareg *abarad* 'boy', *tabaraṭ* F. (< *-*baraq-t*) 'girl' (**brt*) || Cushitic: Saho (Irob) *bārça*, (Assaorta) *bālā*, Afar *bālā* 'child'; Sidamo (Moreno) *beto*, Darasa *belti* 'son' (Darasa *belta* 'daughter'); Haruru *bušo*, Kaffa *bušō*, Bworo (Beke) *bušō* (š < *-*lt-*). The proto-form in Cushitic was probably **brt* (or **blt*?), as in Berber. || Cf. Reinisch Afar 829; Gesenius 113, 899, 103; Leslau (Soq.) 95, Moreno (Sid.) 208.

? Kartvelian: Zan: Chan *bere* (probably < **ber-ja-i* with an archaic diminutive suffix and umlautization of the expected Zanian ə < *e) 'child, son'; Megrel *ber-* as a component of the surnames Beria, Berija, Gigi-beria. || The suggestion (Chikobava, 19-20) that the Zanian form is borrowed from the Veynakh languages (North-Central

Caucasian) is hardly convincing (compare Chechen *bēr*, Ingush *ber*, Bats *bader* 'child'). This hypothesis is challenged by the areal of the Zanian word (for the most part Chan, i.e., South Zan) as well as the relic quality of the Megrelian stem **ber-*, supplanted by the transparent deverbal derivative of **šew-* 'to give birth to' (Megrel *skua* 'son' < **m-šw-e*; a different single stem derivative **šw-il* in Zan carries a notion of endearment: Chan *skir*, Megrel *skī-*). Cf. Chikobava 21-22, Klimov 139, 217.

IE || Alb. *bir* (< **bhr̥-*) 'son' || Olce. *burr* 'son'; Olce., OHG *barn* 'child' || OLit. *bernas*, Latv. *bērns* 'child' || In IE the stem **bher-* 'child' was apparently contaminated with **bher-* 'to take – to carry' (see #8). This contamination was facilitated by the possibility of a semantic shift 'to carry' → 'to bear fruit, be pregnant' → 'to give birth to', and is reflected in such forms as Arm. *ber*, Gk. φέρω 'fruit', Mlr. *birit* 'sow', Gmc. **beran* 'to carry, bring' and 'produce, give birth to'. Cf. Pokorny 128-132 (where no attempt is made to separate stems with the meaning 'child' and 'carry').

Cf. Möller 34 (Semitic ~ IE), Trombetti 370. The Afro-Asiatic data indicate the originally nominal nature of the stem.

157. **kamu** 'to seize, to squeeze': AA *km-* 'to seize, take, squeeze' ~ IE *gem-* 'to seize, take, squeeze' ~ Uralic *kama-lə* / *komə-rə* (< **kamo-*) 'handful': Dravidian *kamə-* 'to seize, take, hold' ~ Alt. *kamu-* 'to seize, take, squeeze'.

AA || Sem.: Akkad. *kmj/w* 'tie up (a captive, etc.)', *kam-tu* f. 'oppression, need'. An extension of original **km-* is probably represented in Sem. **kmṣ* (> *qmṣ* and *kms* with assimilation): Aramaic, Heb. *qmṣ* 'to take a handful', Akkad. (OBab.) *kms*, (Mid. Assyrian) *kmṣ* 'to gather, collect'; see further (**kmś* ?) Arabic *kmš* 'to seize' / *qmš* 'to pick up', Akkad. *kmš* 'to gather'. See Soden AW

431. || Berber: Tuareg ekmem 'to squeeze', ekmu (preterit -kma) 'to cause suffering', met 'to gather' (*km-). || ? Central Cushitic: Xamir, Dembjja, Avija kim 'personal property, cattle', Bilin kemā 'cattle', Kuara keməm 'to possess' (probably from 'to seize, to capture'); Sanije (S. Cushitic) kami 'to receive'. Cf. Reinisch Bil 220, Damman ZES 35,232. || Chadic *km: Hausa kāmá 'to catch'; Musugeu kaw 'to seize'; Gidar gama, Masa čum 'to take'. || See Greenberg 61, Rössler ZAss 50, 133.

IE || Arm. չմլեմ 'I squeeze' (suffix -el, as in Celtic and Germanic; cf. Mann Arm.11). || Grk. (Homeric) γέντο 'he took, seized' (< *gem-to) || MIr. gemel 'fetters' || OSwd kumla 'to press (together)' || Lit. gùmulas 'lump', Ltv. guñt 'to seize, to attack'; OCS ъмъ (inf. ъти) 'I squeeze', Ukr. ъменя 'handful'. || See Pokorny 368-9.

Uralic || Finnish kahmalo (and with metathesis kamahlo), Vepsian kahmol, Livonian kōmal 'handful from two palms'. In the majority of Balto-Finnic languages we have a secondary -h- which possibly developed in connection with a change in archaic auslaut, as in the structurally analogous Fin. ahmu < *amo (See Dict. #124) and which is supported by analogy with the stem kahte- 'two'. A more archaic form is most likely preserved in Fin. dial. kamalo, Estonian kamal || Saami (Northern) goabmer 'handful' || Mordvin (Moksha) komâr, (Erzja) komoro 'full handful' || ? Komi kamyr 'full handful' (the preservation of *a, as in a number of other instances in Permic, cf. Lytkin 176-177) || Samoyed: Enets xammara 'hand' || Cf. SKES 140, Collinder 22, Setälä JSFOu 305,54. The correlation of *a vocalism in Balto-Finnic, *o in Mordvin and Saami indicates an original form with labial *-o in the second syllable which in some languages caused labialization of the root *a during the period when similar structures were eliminated (cf. Dict. #124, #281).

? Dravidian || Telugu kamucu 'to hold, seize' || Malto (Droese) kann- 'to gather (one by one)', kamj- 'to earn' || These formations probably

should be separated (in spite of DED 94, Krishnamurti 325) from Drav. kava- 'to seize' (see Dict. #190), especially in view of the Malto data, where the transition of -v- > -m- is not seen.

Altaic || Turkic *Kam-a-, *Kam-ty: Uighur qama- 'take prisoner, surround'; Kirghiz kama- 'to surround, to arrest', Karakalpak., Tatar kama- 'to drive into a pen, to surround'; Karakalpak. Nogai kamty- 'to seize, grab' || Writ.Mong. quamu-, Khalkha, Kalmyk xamā- 'to gather, pick up'. Mong. *qam-tu 'together' (see Poppe Mong. 102) apparently belongs here < 'gathered together' (adj. in -tu; for the semantics cf. below the Orok forms) || Tung. *kama- / *kamu-: Nanaj kama-le- 'to press onto, to forbid', Olcha kama-lu- 'to forbid', kama-lžu- 'to press', Orok kamu-i- 'to take into one's arms, to enclose together' (cf. kamu-r 'into one pile'); Evenki kama- 'to refuse help; to oppress', Even kam- 'to grate one's teeth' || ? Korean kam- 'to close (one's eyes)' (< to squeeze'; otherwise Ramstedt SKE 91) || See Malov PDP 410, Ramstedt KW 164, Vasilevich 190. Mong. and Tung. (Orok) indicate Altaic *kamu- (Tung. *kama-, perhaps, is the result of secondary assimilation). The original meanings are 'to seize, take, squeeze'.

Cf. Illich-Svitych PSG 25 (IE ~ Alt). AA, IE and Alt. reflect *k in anlaut. The vocalism of the first syllable *a is preserved in Uralic, Dravidian, and Altaic, and is supposed by IE data (velar *g-). Uralic and Altaic indicate a labial vowel in auslaut. Only derivative nominal forms of the archaic verbal stem are preserved in Uralic (with the semantic development 'that which seizes' > 'handful').

Translated by Mark Kaiser

A NOSTRATIC WORD LIST:
RECONSTRUCTIONS BY V. ILLICH-SVITYCH

Translated and Arranged by Jim Parkinson

There are 607 Nostratic words in Illich-Svitych's foundation article 'Materials for a Comparative Dictionary of the Nostratic Languages' (1967), but only 378 words have yet been published in the *Nostratic Dictionary* volumes (1971-), and only eight beginning with *r* to *z* (or *ȝ*). The Nostratic words from both sources are here combined and alphabetically sequenced; unreconstructed words from 'Materials' are included, with only three important words from other sources. In all, there are 977 entries, which comprise about 690 independent words.

In the tabulation below, the first of four columns, 'N. Dict.', gives the number locating the words in the *Nostratic Dictionary*. The I-S('67) column gives the page (between 330 and 373) and sequence on that page of *Etimologijā 1965* (published in 1967). The third and fourth columns give the Nostratic word, arranged in alphabetical order of phonemes (\wedge is last), and its English meaning.

Some examples:

N.Dict.	I-S('67)	Word	Meaning
[64	340-2	d/ä/w \wedge	to blow
64		dEwHi	to shake, to blow

This means 'd/ä/w \wedge ' (where the phonetic value labeled 'ä' is questionable) is the second entry on page 340 of Illich-Svitych's 1967 paper; it means "to blow" and corresponds to #64 in the *Nostratic Dictionary*. The next line has improved the phonemes of #64 to 'dEwHi' (Where E could stand for ä, e, or i; and H is an undetermined laryngeal or post-velar, such as h or q), and the definition has been elaborated.

N.Dict.	I-S('67) Word	Meaning
159	kurʌ (see karʌ)	crane

This means karʌ is a more likely reconstruction than kurʌ.

[136 340- 7 [idə A (?itə) to eat

This entry indents '[' to mean idə is not a reconstruction, but a word from one of the Nostratic daughter languages (in this case Altaic [A]) with one or more cognates among the other branches. The translation, however, is that of the Nostratic root — ?itə in the *Nostratic Dictionary* (see #136) — not necessarily the same as the entry word's translation.

The definitions are refereed between the *Nostratic Dictionary*, Vol. 2, and Mark Kaiser (to be published), commonly preferring the latter, but sometimes modifying both. Some attempt to translate the Russian consistently has been made. Verbs are sometimes marked v.t., v.i., or v.t./i., to designate transitive and/or intransitive.

Note that words beginning with vowels are cited at the end (according to the *Nostratic Dictionary*, such words began with ?-, ئ-, ھ- or ھ- in Nostratic.) Note that the ۋ in Illich-Svitych's 1967 paper corresponds to ئ in his *Dictionary*. Glottalized consonants are cited as k', q', c' etc., where Illich-Svitych had ڭ, ڧ, ڦ, etc.; Illich-Svitych's p' is given as ٻ. For other phonetic symbols, see M. Kaiser's list in *Reconstructing Languages and Cultures*, p. 175.

ABBREVIATIONS

- A — Altaic
- AA — Afro-Asiatic (Hamito-Semitic)
- D — Dravidian
- IE — Indo-European
- K — Kartvelian
- U — Uralic

1p = first person	fmt = formant	n = noun
adj = adjective	freq = frequentative	part = particle
comp = comparative	int = internal	pers = personal
conj = conjoining	intens = intensifying	pl.n = plural noun
deg = degree	interr = interrogative	pron = pronoun
dem = demonstrative	iter = iterative	rel = relative
f = female	loc = locative	v = verb

CORRECTIONS TO KAISER'S (1989) LIST OF NOSTRATIC ROOTS

1.	extremity	not <i>extremity</i> ; twice s.v. duλʌ
2.	shiny	not <i>shiney</i> ; s.v. gi1/H/ʌ
3.	ᵰ/e/bU	not ᵰ/e/bu; s.v. {ᵰ/e/bu}
4.	#158 **kənpʌ	not #kənpʌ; s.v. kampʌ
5.	168	not 169; s.v. koj/H/ʌ
6.	**Kər̥ā	not **Kər̥ā [s.v.]. It is a typo in N. Dict.; it should be #217 Kər̥ā
7.	/k/ujʌ	(not /kujʌ [s.v.]
8.	#200 **kErda	not #kErda; s.v. kʌrdʌ
9.	349	not 331; s.v. najrʌ
10.	'pus'	not 'puss'; twice s.v. səjʌ
11.	/š/ujʌ-	not /šuʃʌ-; s.v. Suʃʌ

N.Dict.	I-S('67)	Word	Meaning
[2	364-5	[bā- A {baHʌ}	to bind
1		baH1i (?)	wound(n.), pain(n.)
2		baHʌ	to tie to
[3	366-4	ba/k'/ʌ	to look
3		baK'a	"
[5	331-1	ba1/g/ʌ	to shine
4		ba1?/u/	to swallow
5		balq'a	to scintillate
[1?	331-7	ba1ʌ	to be ill
6		ba1ʌ	blind
	349-11	[ban- K	to wash
[30	364-2	bandʌ {bʌnt'ʌ}	to bind
7		bara	big, good
8		bari	to take
[8	332-2	barʌ	"
	358-14	ba/š/ʌ	to make small
	363-4	b/ä/1ʌ	bright / light
	337-6	bängʌ	head
9		berg/i/	high
10		be/rH/u	to give
[10?	338-9	berʌ	"
11		biča	small
12	369-6	bič'ʌ	to break
[4	336-1	bilyʌ {bal?/u/}	throat
13		bilwi	cloud
[13	351-12	bil(w)ʌ	"
[14	345-9	bilʌ	to scream
14		biÍʌ	"
	369-4	birʌ	to flow
	340-13	bišʌ	bile / gall
15		bok/a/	to flee (run away)
[15	330-2	b/o/kʌ	to run
16		bol?i	to grow (of plants)

N.Dict.	I-S('67)	Word	Meaning
[16	347-6	bolʌ	leaf
17		bongä	thick, to swell
[17	333-6	bonk'ʌ	to swell
18		bora	brown, grey-brown
22		bor(H)ʌ {see bur(H)ʌ}	porous soil, dust
[18	332-11	borjʌ	brown
	332-5	b/o/rwʌ	beam
[24	344-1	borʌ-	to boil
[25	345-13	[br ʌR	blood
(cf.5)	362-16	[brk'- K	to scintillate
19		buHi	to grow up, to arise
[19	333-2	bu/H/ʌ	to be
	336-11	bu/k'/ʌ	to bend (v.t./i.)
20		bulʌ	sediment, lees, turbidity
	366-3	bulʌ	to mix
21		bura	to bore
[23	332-12	bur(g)ʌ	storm
22		bur(H)ʌ	porous soil, dust
[22	358-10	burʌ	dust
23		burʌ	snow (sand) storm
[26	342-5	burʌ	to cover (from light)
[21	363-1	burʌ	to bore
24		burá	to boil (v.i.), to seethe
25		bük'a	to bend (v.t.), bent
26		büri	to cover
27		-bʌ (?)	suffix in names of wild animals
28	348-10	bʌgʌ	sufficient, excessive
29	340-1	bʌlHʌ	to blow, to inflate (v.t.)
30		bʌnt'ʌ	to bind
	332-6	bʌndʌ	ford
31		bʌrKʌ	knee
32	361-9	bʌrʌ	child

N.Dict.	I-S('67)	Word	Meaning
33		calu	to split, to cut
[33	360-2	cəlʌ	to split
[47	372-13	/c/arʌ	rough
	354-8	/c/əlmʌ	loop
35		corʌ {see curʌ}	to drip
34		cujhʌ	thorn / prickly plant
[34	372-14	/c/u(j)(H)ʌ	thorn
35		curʌ	to drip
[35	343-12	c/u/rʌ	"
	330-8	[cuttʌ D	to beat
36	357-3	cʌtʌ (?)	to cover, put on (clothes) / sheild
37		c'äjha	to twinkle
[37	348-6	c'(ä)jʌ	"
[53	360-11	c'arʌ	to cut
[40	367-9	c'urʌ	herd .
	370-6	c'ʌmʌ	to maim
[54	368-15	c'ʌmʌ	harsh(of taste)/astringent
	372-3	c'ʌrʌ	over / across
38	337-2	c'ʌwʌ (?)	to scream, to talk
39		Cali	to tie around, to tie to
40		Curʌ	herd (of wild animals)
41		čap'a	to beat, to chop
[41	361-13	/č/ap'ʌ	to chop
[44	358-1	/č/e1ʌ	to jump
42		činʌ	to know
	343-13	/č/ip'ʌ	to drip
	360-4	čitʌ	to split
	363-2	čohrʌ	bright / light
43		čuhʌ	to look
	369-2	čurʌ	to flow
[49	345-7	/č/ympʌ	crooked, bent
[42	343-3	čʌnʌ	to know
[43	367-12	čʌwʌ	to guard

N.Dict.	I-S('67)	Word	Meaning
	344-6	č'abʌ	glue
44		č'eʌʌ	to jump
	341-3	č'ʌwʌ	to burn
45		Ča	adj. and dim. formant
46		ČaK'ʌ	to tickle
47		Čarʌ	hardened crust
48		-Či	fmt. of freq. and iter. verbs
49		Čimpa	curved, bent
[58]	373-1	/č/aɪ/H/ʌ	wide
	335-6	[č/i/ŋkä- U	to stick into
50		čiru	pus, slush
[50]	336-6	čirʌ	to rot
	344-9	[čoky- ʌ	to stab
	331-14	[čók(ʌ) ʌ	great/big
[51]	340-3	čun/k/ʌ	smoke
51		čüngʌ	to smell (v.t.), odor
52		č'ʌdʌ	to beat
53		č'ʌrʌ	to cut
54		č'ʌmʌ	harsh (of taste)/astringent
55	361-2	č'ik'ʌ	to cut
56		č'irʌ	to look after, to guard
57		č'ʌfʌmʌ	to eat
[56]	342-1	č'ʌrʌ	to care
[53]	353-2	č'ʌrʌ	point
58		ČalHa	wide
59		da.	loc. part.
60		daHʌ	intens. and conj. part.
[61]	331-3	dakʌ	near
61		daKa	nearby
62		dalq/u/	wave(n)
63		danga	to cover
[63]	355-13	dangʌ	"
[64]	340-2	d/æ/wʌ	to blow

N.Dict.	I-S('67)	Word	Meaning
64		dEuHi	to shake, to blow
65		-di	suffix of past tense forms
66		didA	big
67		diga	fish
[67	362-8	digA	"
[75	344-3	d/i/yA	to put
68		dila	sunlight
[68	366-11	dilA	sun
69	342-15	diqA	soil
70		dIga	bright / light
71		duli	fire
[71	352-6	du1A	"
[74	336-3	du1A (?)	deaf
72	352-11	duλA	extremity
[73	349-2	dungA	to keep silence
	352-1	durA	to cheat
73		düngä	to be calm, keep silence
74		dUrA (?)	deaf
75		dΛfA	to put
76		dΛwA	to be ill, to die
[76	365-6	dΛwA	(physical) weakness
	364-7	[dä/dä/wä] U	spleen
[77	356-9	[ga- A	to receive
77		ga(HA)	to take, to receive
78		gara	thorny branch, thorn
[78	369-10	garA	to protrude
79		gändu	male
[79	362-13	gändA	"
[82	342-8	g/ä/rA	dawn
80		gäti	hand / arm
81		gedi (?)	nape of the neck
[81	342-2	gedA	back
	346-6	gep' A	light (weight)

N.Dict.	I-S('67)	Word	Meaning
82		gE/hr/a	dawn
[84	330-11	gil(H)ʌ	to shine
83		gilʌ	sickly state, grief
[83	331-8	gilʌ	to be ill
84		gi/ɿ/hu	smooth and shiny
[83?	337-10	[glow- K	grief
[87	358-12	gobʌ	plain (level)
85		goHjʌ	sunlight, redness of sky /dawn
88		goʃrʌ	to look for
[90	330-1	gojrʌ	antelope
[85	342-7	gojʌ	dawn
[167	349-3	g/o/jʌ (?) {koja}	moth
86		go1Hʌ	heart
[94	343-14	go1ʌ	to roll
87		gop'a	hollow, empty
[95	337-15	g/o/ɸʌ	to burn
[84	335-12	guɿʌ	smooth
89		gu/nH/i	to think (about)
[89	339-12	g/u/nʌ	to think (deeply)
	352-3	gunʌ	to chop off
[92	336-8	gupʌ	to bend (v.t/i)
[87	358-7	gup'ʌ	empty
90		gurHa	antelope, male antelope
91		gurʌ	to swallow
[91	335-15	gurʌ	throat
[239	341-11	gü1ʌ	dwelling
92		güpʌ	to bend (v.t/i)
93		gUjRä	wild (beast)
94		gU1'ʌ	round, ball
95		gUrʌ	burning coals / embers
[94	372-6	gʌ1ʌ	skull
[86	364-9	g/Aw/1ʌ	heart
96		galpa (?)	weak, feeble

N.Dict.	I-S('67) Word	Meaning
97	gark'u (?)	to bend (v.i.)
	345-8 gorʌ	to scream
	364-1 gudʌ	to bind
98	guru	to flow, to pour
[98	341-6 gurʌ	fluidity
[96	365-8 /g/ʌlɒpʌ	weak
99	gʌmʌ	darkness, night
[99	368-12 gʌmʌ	dark
[97	336-10 gʌrk'ʌ	to bend/be bent (v.t/i)
	363-5 gʌrʌ	(wild) pig
[139	334-5 ɣa/k'/ʌ	water
[141	333-5 ɣ/o/ʒʌ	branch
	352-14 ɣʌrʌ	eagle
100	hawʌ	to desire passionately
[100	340-12 h/a/wʌ	to desire
	342-9 h/u/rʌ	to conceive (a child)
101	haju	to live, vital force
[105	358-13 /h/əŋgʌ	to open (wide) / gape
[101	341-14 hujʌ	to live
	337-3 hʌwʌ	to talk
	360-8 [hls' (?) ʌʌ	to tear
102	Ha	to become / be
103	Haja	to chase / to pursue
104	Haɪʌ	forward edge
[123	354-11 /H/aɪʌ	food
105	Hanga	to open one's mouth wide
[125	340-5 [HenH- IE	to breathe
106	Henka	to burn (v.i.)
107	Herä	to collapse
108	Herä	male
	359-9 [Herdh- (?) IE	to grow
	370-15 [Heus- IE	ear

N.Dict.	I-S('67) Word	Meaning
109	H/E/mi	to suck, to swallow
110	HEnPA (?)	navel
111	Hi	part. indicating past tense
	340-9 /H/indA	heat
112	Hirá	to drag, to pull
[118 333-8	/H/o/k'/A	to see
113	HoK'i	point
114	Homśa	meat
115	HonĆa (?)	end, edge
116	Horä	to rise
117	HosA (?)	ash tree
[343 352-8	/H/ot'A (qot'i)	fire
118	HuK'a	eye, to see
119	Huwa	flowing waters
120	HütA (?)	rest period
[110 358-5	[Hēnbh- IE	navel
121	?a	that, dem. pron. for a distant object
122	?a	fmt. of verbal constructions
123	?aīa	food
124	?āmu	morning, daylight
125	?anqA	to breathe
126	?arba (?)	to practice witchcraft
127	?aSa	fire
128	?äla	part. of categorical negation
[134	?e (?) {see ?i}	demonstrative pronoun
129	?e	negative particle
130	?ejA	to come
131	?elA	to live
132	?esA	to settle at a place (of nomads), to be at a place
133	?EmA	to seize, to take
134	?i	this, dem. pron. for a nearby object

N.Dict.	I-S('67) Word	Meaning
135	?ili	deer
136	?itä	to eat
[135 352-12	[?j1 AA	deer
137	?aíΛ	to cross (a mountain)
138	?/e/bu	female breast
139	?EK'u	water
140	?ALA (?)	to burn (an offering) to ashes
141	?AžΛ	branch
142	ja	which, interr. and rel. pron.
143	jaHU	to bandage, to gird
144	jamΛ (?)	water
[144 349-4	jamΛ	sea
145	jarΛ (?)	to shine (flash)
146	jAnΛ	to talk
[143 356-13	jä/H/Λ	belt, girdle
346-7	jän/k/Λ	ice
[147 350-11	jän/t/Λ	to stretch
147	jänTΛ (?)	to stretch, to draw out
[130 357-4	je(HΛ)	to come
148	jela	bright / light
[148 362-17	je1Λ	to scintillate
149	-jE	formant of optative
143	joHΛ {see jaHU}	to bandage, to gird
347-8	ju/k/Λ	to pour
150	-jΛ	suffix of denominal and deverbative adjectives
151	-jΛ	dim.-endearing suffix of nouns used in addressing
152	-j(Λ)	affix of obl. form of pl.n.'s
153	jΛ- (?)	fmt. of the comp. deg.
[181 330-4	[kače-	to run
154	kala (?)	vessel
[156 337-7	kaljΛ	bare
155	kalΛ	fish

N.Dict.	I-S('67)	Word	Meaning
156		kaíΛ	to peel, to skin
[156	354-13	/k/aíΛ	film
	372-12	[kama- U	husk
[158	338-6	kampΛ	lip
157		kamu	to seize, to squeeze
[157	370-16	kamΛ	to seize
158		kanpΛ	soft outgrowth (e.g. mushroom)
	332-1	kantΛ	to take
159		karΛ	crane (bird)
[80	362-4	k/ä/čΛ {gäti}	hand / arm
160		käjwΛ	to chew
161		kä/1H/Λ	to go, to wander
162		kälU	female relative by marriage
[161	332-7	kälΛ	ford
[162	363-7	kälΛ	female relative by marriage
	368-10	[kämä U	hard
[160	340-10	käwΛ	to chew
	361-1	ker tΛ	to cut
163		kENA	to know
164	354-9	k/iH/Λ	to sing
[163	343-2	kinΛ	to know
165		kirHΛ (?)	old
[165	367-10	kirΛ	"
166		kiwi	stone
[166	343-10	kiwΛ	"
[183	335-7	/k/og(Λ)	to track / follow
167		koja	moth, caterpillar
[169	345-2	koja (?)	crust / bark / rind
168		kojHa	fat (adj.), healthy
169		kojHa (?)	skin, rind
[168	341-12	koj/H/Λ	fat (n.)
170	330-5	kojw/a/	birch
[170	330-5	kojwΛ	"
[171	351-11	kolΛ	to skin, to peel

N.Dict.	I-S('67) Word	Meaning
171	koλΛ (?)	to skin
356-3	komt'Λ	small cover (of vessels)
356-11	k/o/ndΛ (?)	to spoil
370-7	k/o/ń/g/Λ	depth (hollow of armpits)
172	korΛ	anger, mental suffering
173	k0ři	lamb, sheep
[217 345-1	[kōre U	crust / bark / rind
[237 345-12	[kreu(H)- IE	blood
[174 363-6	kudΛ	male relative by marriage
[161? 332-8	[k'ulγ R	to wander
[176 371-8	kulΛ	cold
[179 372-1	kułΛ	worm
[184 352-13	[kuma- U	to turn over
362-11	/k/umΛ	crumbly / porous
[178 340-14	k/u/nΛ	woman
358-4	[kupla U	bubble
[185 335-11	ku/p/sΛ	to burn out
[159 341-15	[kurke U {cf. γärΛ} crane	crane
159	kurΛ (see karΛ)	"
[186 362-15	[ku/ś/e- U	to fall down
174	küda	male relative by marriage
[187 370-1	[/k/üdä- R	fog / mist
175	küjñΛ (?)	to bend at the joints, bone flexion
[175 368-5	[küjñā- U	joint
176	külä	to freeze, cold (n.)
177	külä	lake, small reservoir
178	küni	wife, woman
179	kUłΛ	snake, worm
[224 346-10	k/y/č'Λ	summer
180	kʌmΛ (?)	biting insect
181	KačΛ (?)	to struggle forward
182	KejΛ	to do

N.Dict.	I-S('67) Word	Meaning	
183	Koki (?)	to track, to watch	
184	Kumä	overturned	
185	KuPšá	to burn out(v.i.), to extinguish	
186	Ku/s/i (?)	to fall	
187	KünTā (?)	fog / mist	
188	Küt'ʌ	to bind	
189	-k'a	diminutive suffix of n.'s	
190	k'aba	to seize	
[219 345-5	/k'/ac'ʌ	bone	
191	k'ačʌ	man, youth	
192	k'adʌ	to interweave (wicker)	
[192 368-1	k'adʌ	to build	
193	k'aHPʌ	to chop, to dig	
[191 349-9	k'ajč'ʌ	(young) man	
[209 362-9	/k'/ajwʌ	to dig out	
[210 335-8	/k'/a1ʌ	high	
[208 341-1	/k'/a1ʌ	to burn	
194	k'aλa	to leave(v. i/t), to abandon	
[194 352-15	k'aλʌ	to abandon	
[211 361-8	/k'/a/n/ʌ	to give birth to	
190	k'apa {see k'aba}	to seize	
[195 366-14	/k'/ap'ʌ	vessel	
[212 356-1	/k'/ap'ʌ	to cover	
[190 371-1	/k'/ap'ʌ	to seize	
[193 362-2	k'a/p'/ʌ	to chop	
195	k'ap'ʌ	nape of the neck, head	
[214 334-1	k'ar(w)ʌ	viscera (internal organs)	
[215 353-9	k'arʌ	hearth	
[213 372-7	/k'/arʌ	black	
[218 372-8	/k'/ašʌ	to scratch	
196	k'äčä	to cut	
[196 360-10	k'ä/čʌ	"	
[222 344-13	/k'/äp'ʌ	hoof	
197	363-9	k'ärʌ	to tie (tightly)

N.Dict.	I-S('67)	Word	Meaning
[221	336-14	[k'elə- A	to talk
198		k'elʌ	to be insufficient
[198	351-8	k'elʌ	necessary
[226	346-5	/k'/eñʌ	light (weight)
199		k'erjä	to scream
[199	342-11	/k'/erjʌ	to call
[217	344-15	/k'/erʌ	crust / bark / rind
[225	353-13	/k'/etʌ	to fall
200		k'Erdʌ	chest, heart
[228	334-10	/k'/il(k)ʌ	(thick) hair
[229	364-8	/k'/inʌ	to be angry
	348-3	/k'/ir(H)ʌ	crown (of a head)
[231	365-5	/k'/irʌ	to scrape
[230	343-9	/k'i/rʌ	hoarfrost
201		k'o/	post-positional intensifying and conjoining particle
[241	345-3	/k'/o/c'/^ʌ	box
[155	362-7	k'o1ʌ	fish
202	345-15	k'o1ʌ	round
[177	352-10	/k'/oɿʌ	lake
[242	355-9	/k'/omʌ	to devour
[173	373-5	k'orʌ	lamb
	360-12	k'o/t'/^ʌ	to cut
203		k'udi	tail
[203	371-6	k'udʌ	"
[238	334-7	k'ujnʌ	wolf
[233	355-11	/k'/ujʌ	to (stay at) rest
[239	361-4	/k'/u/l/^ʌ	clan
[235	351-9	/k'/u1ʌ	to collapse
204		k'uλa	secret (adj.), to steal
[204	368-7	k'uλʌ	secret
	346-1	k'/u/nʌ	marten (zool.)
[243	346-3	k'/u/pʌ	heap
[240	354-4	/k'/up'^ʌ	to foam

N.Dict.	I-S('67)	Word	Meaning
[234	338-4	/k'urʌ	to gnaw (of insects)
[244	345-4	/k'urʌ	short
[344	353-1	/k'urʌ {q'urʌ}	point
[236	365-4	/k'urʌ	to fasten
205	348-4	k'ut'ʌ	small
	346-2	k'ʌbʌ	to bite
[200	364-10	k'ʌrdʌ	heart
206		k'ʌrpʌ (?)	to gather fruit
207		K'a	part, inciting to action (with verbal forms)
208		K'ajla	hot, to burn (v.t.)
209		K'ajwʌ	to dig
210		K'aLi	to raise, to rise
211		K'anʌ	to give birth to, be born
212		K'ap'a	to shut, to cover
213		K'ar/ä/	black, dark-colored
214		K'arb/i/	abdomen, viscera/int. organs
215		K'arʌ	to burn (v.t.), to scorch(v.t.)
216		K'arʌ	rock formation (e.g. cliff), steep elevation
217		K'ar̥ä	bark(n.) / crust / rind
218		K'as̥ʌ	to scrape, to scratch
219		K'aSʌ	bone
220		K'awingʌ	armpit / underarm
221		K'ä/lH/ä	tongue
222		K'äp'ä	paw
223		K'e	who
224		K'Eča	summer heat
225		K'etʌ	to fall
226		K'EñU	empty, light (weight)
227		K'Erʌ	horn
228		K'ilə	stem / stalk, hair
229		K'in/u/	to be angry, to be jealous
230		K'irʌ	hoarfrost

N.Dict.	I-S('67) Word	Meaning
231	K'irʌ	to scrape
232	K'o	who
233	K'ojə	to (stay at) rest
234	K'orʌ	to gnaw, worm
235	K'u1ʌ	to fall, to subside
236	K'ur1ʌ	to interweave, to bind
237	K'urʌ (?)	blood
238	K'üjnʌ	wolf, dog
239	K'ülä	community, clan
240	K'üpä	to boil(v.i.), to swell up
241	K'Uéʌ	wicker basket
242	K'Umʌ	to swallow, to devour
243	K'U/p/a	heap
244	K'Urʌ	short
245	K'ʌ	directive particle
246	-l/a/ (?)	suffix of collective n's
[262 371-3	labʌ	to seize
[263 331-9	la/H/mʌ	swamp
247 346-11	lak'ʌ	to lick
[264 351-5	lamdʌ	low
	355-3 laptʌ {see lapʌ}	flat
[256 355-3	lapʌ	"
	347-2 l/a/pʌ	to lick
[273 347-1	lašʌ	"
[266 350-14	lawčʌ	unfastened / loose
[267 347-7	läjʌ	to pour
248	-lʌ	suffix of denominative verbs
249	laſL	to rub, to damage
	332-15 le	to be
[258 350-1	lejníʌ	soft
250	l/e/p'ʌ (?)	spleen
251	lewda (?)	to search for, to find
[251 358-17	lewđʌ	to search

N.Dict.	I-S('67)	Word	Meaning
252		lip'a	sticky
[252	347-4	lip'ʌ	"
[270	347-5	lok'ʌ	fox
[268	351-10	lop'ʌ	to skin / to peel
[249	365-7	[los- IE	weak
[269	340-8	lubʌ	thirst
	358-16	/l/u/kʌ	to destroy
	367-4	lu1ʌ	to sleep
354		lungé	snow
[354	366-6	lungʌ	"
253		-1ʌ	adjectival suffix
[271	346-8	lʌgʌ	to lie (repose)
	338-7	lʌpʌ	lip
[265	341-8	lʌt'ʌ	fluidity
254		íama	to knead / mash, to soften
[254	371-11	íamʌ	fragile
[255	351-6	žakʌ	foot / leg
255		ž/a/K'á	leg
256		žap'a	flat
	356-2	žäp'ʌ (?)	to cover
257		žA	locative particle
258		žejna	soft, weak
259		žiwa	mud, silt
[259	338-5	žiwʌ	mud
	366-8	žokʌ	to gather (-> to count)
[260	350-5	žon/k'ʌ	to incline
260		žonK'á	to bend (v.t.)
[261	366-9	žu/k'ʌ	to poke (v.t.)
261		žük'ʌ	to pierce, to poke (v.t.)
262		Labʌ	to seize, to get
263		LaHm/u/	swamp
264		Lamd/i/	low, lowland
265		L/a/t'ʌ	moist
266		Lawša	weak, limp

N.Dict.	I-S('67)	Word	Meaning
267		L/ä/jʌ	water, to pour (flow)
268		Lop'ʌ (?)	peeled bark / rind, thin layer of plant material
269		Lubʌ	to feel thirsty
270		Luk'ʌ	small carnivore
271		Laga	to lie (repose)
272		LAhʌ (?)	to be ill
273		LAsʌ	to lick
274		λa/mH/u	bird-cherry (tree)
[274	372-5	λo/mH/ʌ	"
275		magu	bad
	342-14	magʌ	soil / earth
[280	331-13	magʌ	big
355		maHj/e/	to swing, to shake, to wave (rock)
356		maHjʌ	to lose strength, to weaken; to disappear, to perish
[276	339-6	[maj/8/â U	tree
276	348-5	majʌʌ	honey, sweet sap from trees
277		majrʌ	young male
278		ma1ʌ	numerous, abundant
[278	331-12	ma1ʌ	big
279		mana	to discontinue / stop, to detain (v.t.)
280		manga	strong, firm
281		manu	to think (about)
[279	357-1	manʌ	to stop
[281	339-10	m/a/nʌ	to think (about)
[292	349-7	[mən] D	man
282		marja	berry
[282	373-6	mar(j)ʌ	"
283	339-5	marʌ	tree
[277	373-4	marʌ	youth

N.Dict.	I-S('67)	Word	Meaning
	[288 358-11	m/a/rʌ	spot
284		mR	fmt. with nominal function in relative constructions
285		-mR	suffix formant of the marked direct object
286		mRLʌ	mountain
287		mRnʌ	to remain in place, stand firmly
288		mRrʌ	spot, dirty
289		mä	we, personal pronoun: 1st person plural inclusive prohibitive particle
290		mä	water
	[294 334-3	m/äh/χʌ	hill
	371-7	mäkʌ	breast, udder
291		mälgɪ (?)	breast
	[291 338-3	mälgʌ	man, male
292		mänʌ	to stand
	[287 367-14	mänʌ	to knead
	350-4	mäñʌ	to be ill, to die
293	331-5	m/ä/rʌ	moisture, damp
294		mäřä	[297 353-12 mätʌ
			to sense
295		mene (?)	to step
	[357 357-7	mentʌ	to miss
357		menʌ	to miss (the mark), to pass by, to be futile, in vain; reckless; false, lying
296		merʌ (?)	fat(n.), to smear with grease / fat
297		metR	to feel, to be / become conscious of
298		mEwʌ	water
299		mi	I, pers. pron.: 1p. sing.
300		mi	what

N.Dict.	I-S('67) Word	Meaning
	348-11 mil ^Λ (?)	to pray (to God)
301	miňä	woman, female relative
[301	363-8 miň ^Λ	(younger) f. rel. by marriage
[304	349-10 m/o/c'(k) ^Λ	to wash
[302	359-11 mol ^Λ	to rub small
302	mol ^Λ	to break / smash to pieces
	348-9 m/o/n/g/ ^Λ {see m/o/n ^Λ }	much
[280	348-9 m/o/n ^Λ	"
303	mu	dem. pron.: this / that
304	muc' ^Λ	to wash
[305	350-12 mu/č ^Λ	(bodily) deficiency
305	muč ^Λ	spoilage, shortage
306	muda	to end
358	munE (?)	defect, vice, deformity
[308	369-13 mu(n)k' ^Λ	labor
308	mu(n)k' ^Λ	heavy, difficult
307	muňa (?)	egg, testicle
[307	373-9 muň(d) ^Λ	" , "
309	muri	to twist
310	mur ^Λ	to break, to crush
[310	359-10 mur ^Λ	to rub small
	345-10 mur ^Λ	to scream
[306	344-12 mut ^Λ	to end
311	mUd ^Λ	to think (about)
312	372-2 m ^Λ t' ^Λ (?)	worm
[298	334-4 m ^Λ w ^Λ	water
313	m ^Λ /ž/ ^Λ	bright / light, sun
314	-n	suffix of the oblique forms of nouns and pronouns
	na	locative particle
339-4	nahr ^Λ	day
[331	349-8 najr ^Λ	man
315	nat/o/	female relative by marriage

N.Dict.	I-S('67)	Word	Meaning
[315	361-6	natʌ	kinswoman
	357-2	n/äk'/ʌ	to chase (enemies)
[316	354-6	neqrʌ	forehead
316		ne/rH/i	forehead, brow
317		nimi	name
[317	343-8	nimʌ	"
[335	368-13	nu	now
	357-9	nurʌ	to penetrate
	355-12	[nwh- AA	dead person
[334	335-3	/n/ʌgʌ	to stab
318		ńańrʌ	young, newborn
319		ńamʌ	to squeeze, to seize
	373-7	ńan/g/ʌ (?)	tongue / language
320		ńara	fire, flame
[323	333-12	ńäč'ʌ	moist
321	350-2	ńämʌ	soft
[322	334-11	ńäwä	hair
322		ńä/wH/a (?)	"
323		ńäzʌ (?)	moist
324		<ń>ida	to bind
[326	369-3	ńi(h)rʌ	to flow
325		ńila	slippery and moist (of the inner layer of rind/skin)
[325	365-12	ńilʌ	mucus
[318	349-1	ń/o/yrʌ	young
326		ńohrʌ	moist, to flow
(cf.325)	365-11	ńo/H/1ʌ	mucus
[319	339-7	ńomʌ	to hold
[326	333-13	ńorʌ	moist
327		ńowda	to move quickly
[327	338-13	ńowdʌ	to move
[328	369-9	ńukʌ	to pull
[329	347-3	ńulʌ	to shed
[320	337-14	ńurʌ	to burn

N.Dict.	I-S(67) Word	Meaning
328	ñükʌ	to shake (v.t.), to pull at
329	ñü1ʌ-	to pull out, to strip off
[324 364-6	[ñyðə- U	to bind
359	ñajgu-	to bow / bend, to curve, to droop / hang
336-5	ñejʌ	nit
[359 350-7	ñigʌ (?)	to be inclined
[330 355-10	ñik'ə	cervical vertebra, neck
330	ñiK'ə	" , "
331	NajRʌ	man, male
332	NA	dem. pron.: this / that
333	-NA	suffix of pl. animate n.'s
334	NEgʌ	to stab
360	Nuq/ü/	to bend, to curve, to rock, to lower / drop
335	NÜqʌ	now .
353-8	[pač(ʌ) ʌ	to open
347-11	pa/k'/ʌ	to burst
361	paíqʌ	foot / sole
336	pa1ʌ (?)	swamp
362	p/a/r/ä/	nail (of finger or toe)
358-9	[pāry ʌ	bee
356-7	pätʌ	mid (half)
363	/p/äšʌ	root
[375 365-3	p/ek?/ʌ (?)	cattle
337	pelHi	to tremble, to be afraid
[337 331-15	pelʌ	to be afraid
364	per/e/	rind / skin / peel
342-3	[per/s/ʌ U	back
[364 344-8	/p/erʌ	skin
[9 335-9	[p/i/rʌ- U {berg/i/} high	
344-7	[p/i/šk/ä/ U	glue
[340 332-10	[pišʌ- R,U	to splash
338-1	pišʌ	to prepare (food)

N.Dict.	I-S('67) Word	Meaning
	339-8 /p/itʌ	to hold
[362	351-7 [prəg' AA	nail (of finger or toe)
[339	360-7 [prs' AA	to tear
	360-1 [pš- AA	to widen (?)
[336	331-10 p/u/lʌ	swamp
[366	335-2 [puna U	hair (?)
365	/p/unčE	body hair
	349-6 [pu(n)8ʌ U	scrotum
366 (cf.365)	/p/u/ñ/a	hair, wool, feathers
338	purčʌ(gʌ) (?)	flea
[338	331-2 purgʌ	"
338	pü1čʌ(9ʌ)(?) {see	flea
	purčʌ(gʌ))	
342	P/ä/Hjə (?)	pain
367	p'adʌ	to fall
	364-12 p'aj/n/ʌ	to squeeze
368	p'a1gʌ	fortified settlement
[368	356-12 p'a1/g/ʌ	settlement
369	p'alihmə	palm (of hands)
	348-8 p'a1ʌ	much / many
370	343-4 /p'/a1ʌ	tooth
	337-11 p'a1ʌ	to burn
	344-4 p'anʌ	to put
	359-4 p'a/rj/ʌ	to spread
	346-9 p'arʌ	to fly
371	/p'/a/se	membrum virile
[371	372-9 p'a/š/ʌ	penis
	366-13 p'atʌ	(earthenware) vessel
	368-3 p'atʌ	foot
	372-15 p'at'ʌ	wide
372	p'ä/j1ʌ	to fall
	337-16 p'ä/k/ʌ	hot
339	p'är/a/	to tear,to break,to split

N.Dict.	I-S('67) Word	Meaning
	357-11 p'edʌ	to pierce (repeatedly)
[342	331-6 p'e/H/jʌ	to be ill
373	/p'/eHná	to shepherd / graze, to defend, to take care of
	366-7 p'enʌ	dog
	345-6 p'erʌ	edge
	361-7 p'erʌ	to give birth to
	352-5 p'iywʌ	fire
[373	354-2 p'i/H/kʌ	to graze (v.t.)
	352-16 p'i/H/ʌ	point
	372-16 p'iɪʌ	wide
	360-3 p'iɪ́ʌ	to split
374	p'irk'ʌ	to ask, to request
[374	357-10 p'ir(k')ʌ	to ask
340	p'isʌ	to splash
341	p'odqa {see p'oqqa}	hip
	360-9 p'ojʌ	child
375	p'ok'we	cattle (or livestock)
	358-3 p'o/k'/ʌ	bubble
341	p'ožqa	hip
	[p'u- K	to chop
[365	358-8 p'učʌ	hair, down (fine, thin)
	353-14 p'u/č/ʌ	to fall
	339-13 p'uγʌ	to blow
	343-15 p'u(H)jʌ	to boil
	369-8 p'ułʌ	poplar (tree)
	354-14 p'u/nj/ʌ	to weave (to plat)
	359-12 p'ur(j)ʌ	to rub small
	339-14 p'ušʌ	to blow
	340-4 p'u/t'/ʌ	hole
[339	330-7 [p'ʌrʌ	to beat
	351-4 qałʌ	under / below
376	qamʌ (?)	to seize

N.Dict.	I-S('67) Word	Meaning
	354-5 qənt'ʌ	fore
	371-2 qəpʌ	to seize
	343-6 q/a/t'ʌ	to go .
	342-10 qəwʌ	to defend
	362-5 qəlʌ	hand / arm
	338-12 q/o/dʌ	to move
343	qət'i	to ignite, fire
377	qəwe	opening
[377	353-6 qəwʌ	"
	357-12 qərʌ	to pierce (repeatedly)
	354-3 q'ərʌ	to smell (v.i.)
	350-8 q'im/H/ʌ	to strain oneself
	371-9 q'i/h/ʌ	cold
	366-1 q'/iəw/1ʌ	to hear
	370-5 q'o(H)1ʌ	to kill
	373-8 q'oÍʌ	testicle
	344-14 /q'/opʌ	crust / bark / rind
	345-11 q'u1ʌ	to scream
378	q'urE	to love '
[378	347-13 q'urʌ	"
344	q'urʌ	point, to cut
345	q'ʌ (?)	part, with collective meaning
	372-10 q'ʌÍʌ	penis
	368-2 rə/k'ʌ	to build
	359-9 [rd- RR	to grow
346	rE?ʌ (?)	daylight
	349-12 [rhg RR	to wash
	362-10 rəwʌ	to dig
	358-15 ru/c'ʌ	to destroy
	330-3 r/u/č'ʌ	to run
	339-2 rʌgʌ	to move
	334-8 rʌ(h)bʌ	emotion
	361-3 rʌkʌ	horn

N.Dict.	I-S('67) Word	Meaning
373-2	rʌwʌlʌ	wide
356-8	sagʌ	to receive
366-10	[sakʌ- R	sep
339-11	sənʌ	to think (about)
336-7	sæjʌ	pus
348-1	/sä/mʌ	to grease
[44]	339-1 [sel- IE {č'e1ʌ} to move	
	337-5 [sen- IE	year
	366-12 [sibʌ- R	sun
	365-2 sɪlʌ	slippery
	349-5 /s/ɪpʌ	to drizzle
	341-9 /s/ɪrʌ	sinew
	345-14 [sisx-]- K	blood
	365-9 [sokʌ- R	blind
	341-10 sən/H/ʌ	sinew
	357-8 sonkʌ	to penetrate
	333-10 sʊlʌ	moist
	351-1 /s/u1ʌ	unfastened
	367-2 /s/undʌ	to dry
[51?]	342-6 sun(g)ʌ	odor
	348-7 sup'ʌ	to sweep
	337-1 [súra- R	to talk
	341-7 sʌwʌ	fluidity
347	Sʌlʌ	favorable
	368-6 ša/č/ʌ	to strew
	336-4 /š/ajrʌ	nit
	343-5 šalʌ	willow
	342-4 šarrʌ	invocation
	350-13 šel(k)ʌ	unfastened
	335-13 šem/H/ʌ	to swallow
	364-3 šidʌ	to bind
	364-4 ši/H/ʌ	"
	348-2 šiwʌ	to smear (with clay)

N.Dict.	I-S('67) Word	Meaning	
342-13	šoјʌ	to sound (loud)	
353-7	šo/λH/ʌ	to be separated (from herds)	
357-6	/š/otʌ	to curse	
336-12	[/š/ujʌ- ʌ	to bend	
365-10	šu1ʌ	mucus	
370-8	šuλʌ	coals	
370-2	[š/u/ŋkʌ- ʌ	heavy	
344-2	šʌ1ʌ	gut	
366-2	šʌmʌ	to hear	
369-1	šarʌ	to flow	
348	šehrá	to be awake	
[348	331-4	šerʌ	"
	361-10	š/e/wʌ	to give birth to
	366-5	šingʌ	snow
	366-15	širwʌ	to dry
	369-11	[šm- ʌʌ	grass
	355-2	[šmk' ʌʌ	shoulder
	367-5	[šp(w)	to sleep
	350-10	š/u/dʌ	violence
	369-7	šupʌ	thin
	367-1	šu/š/ʌ	to dry
	371-10	šuwʌ	good
	358-6	šʌwʌ	to allow
	364-11	[šùðam ʌ	heart
	354-10	šʌrpʌ	to drink
	361-5	ta/H/jʌ (?)	kinsman
	355-7	ta/k'ʌ	suitable
	369-14	ta1ʌ	to shake
	369-12	täkʌ	to touch
	356-5	tängʌ	full
	355-1	[tālu ʌ	shoulder
	335-14	[tār- ʌ	to swallow

N.Dict.	I-S('67)	Word	Meaning
	365-1	te/h/ʌ	to speak
	339-9	tel(h)ʌ	long
	360-5	te/ɪ/ʌ	to split
	360-6	ter(H)ʌ	to tear
	370-10	tikʌ	terror
[69]	342-15	[tiqa K {diqʌ}]	soil
	338-11	to	two
	338-8	to/H/ʌ	to give
	350-6	tojʌ	to incline, tilt (v.t.)
	354-15	[toky- ʌ	to weave
[62]	334-9	t/o/ɪgʌ	to be in agitation
	335-10	[/t'omp(ʌ) ʌ	bulging
	347-10	[t'ök(ʌ)- ʌ	to pour
	357-13	turʌ	to pierce (repeatedly)
	356-6	/t/urʌ	full
	357-5	[tüí- ʌ	to come
	347-9	tʌ/h/ʌ	to pour
	352-2	tʌlʌ (?)	to cheat
	367-8	tʌpʌ	to cut off (plants)
	343-11	t'aj/ɪʌ	stone
	351-3	t'al(H)ʌ	to carry
	355-4	t'al/H/ʌ	flat
	370-4	t'angʌ	to pull
	370-3	t'anʌ	"
	343-1	t'anʌ	to know
	352-4	t'anʌ	to chop off
349		t'aph<ə>	to beat
	353-10	t'ap'ʌ	to feel
	356-10	t'ap'ʌ	to strike (a target)
[349]	330-6	t'ap'ʌ	to beat
	368-14	t'arʌ	to rub
	347-12	t'arʌ	bald
	335-4	t'äjʌ	louse
	359-6	t'ä1ʌ	to grow

N.Dict.	I-S('67) Word	Meaning
344-5	t'äpʌ	to put
338-2	t'/ä/pʌ	to (be) warm
333-14	t'ärʌ	to contain / accomodate
353-11	t'/e/mʌ	to feel
370-11	t'i jʌ	narrow
333-7	t'i íʌ	to swell
364-15	t'inʌ	strong
337-12	t'/o/gʌ	to burn
336-2	t'ubʌ	deep
372-11	t'u/lɣ/ʌ	jackal
368-11	t'umʌ	dark
344-11	t'ungʌ	base of tree, stump
338-10	t'unk'ʌ	to press
354-12	t'upʌ	to spit
332-13	t'urʌ	rapid
333-3	t'urʌ	to turn
361-12	t'urʌ	to give birth to
343-7	t'urʌ	roe
367-6	t'u/w/ʌ	calm
341-4	t'ü1ʌ	to burn fuel
355-8	t'ʌbʌ	suitable
369-5	t'ʌlk'ʌ	to shove (v.t.)
370-9	t'ʌrpʌ	satisfaction
341-5	wa/č/ʌ	abdomen
330-9	wa/ḥ/ʌ	to beat
353-15	wajʌ	to fall
361-11	waldʌ	to give birth to
363-3	w/a/í(k')ʌ	bright / light
336-9	wankʌ	to bend
367-13	warʌ	side
341-2	warʌ	to burn (up)
336-13	watʌ	to talk
364-14	wäkʌ	strong

N.Dict.	I-S('67) Word	Meaning	
337-9	wärʌ	mountain	
339-3	wärʌ	to do	
370-13	[wä/s/ʌ- ʌ]	to get tired (of)	
362-1	wedʌ	to chop (with weapons)	
351-2	wegʌ	to carry	
367-7	weɪʌ	to slay / fight (v.t.)	
333-4	wetʌ	to lead	
334-2	wetʌ	water	
337-4	w/e/ t'ʌ	year	
362-12	wi/H/rʌ	male	
333-11	wiɿʌ	moist	
340-11	wiλ/g/ʌ	to desire	
335-5	wirdʌ	to rear (v.t.) rear (v.t.)	
359-7	wi/š/ʌ	to grow	
332-14	wɔy1ʌ	to be	
364-13	wɔj/H/ʌ	strength	
358-2	wɔj/k'/ʌ (?)	straight	
355-5	wɔjʌ	to swim / sail	
350	wol<a>	big	
	353-3	wolH/ʌ	point
[350	331-11	wolʌ	big
	335-1	w/o/mdʌ	hairs (facial)
	353-5	won/k/ʌ	opening
	337-8	wɔ/rH/ʌ	mountain
351	wot'ə	to get, to overtake	
[351	332-3	wot'ʌ	to take
	332-9	[wyćkʌ- ʌ]	to throw
	368-8	zalʌ	secret (adj.)
	365-13	za/l/ʌ	mucus
352	332-4	zap'a	to take into one's hands, to hold
	340-6	zegʌ	to eat
	346-4	z/e/wʌ	left
	356-4	zilʌ	to creep

N.Dict.	I-S('67) Word	Meaning
	333-9 zirʌ	to see
[347	330-10 zo1Hʌ {Sʌ1ʌ}	to favor
	370-12 Zukʌ	harvest
353	z/a/ñʌ	fetus/fruit, pregnancy, descendants
	373-3 ūip'ʌ	to pinch
	371-5 ūʌyʌ (?)	to seize
	342-12 ūʌhʌ (?)	to call
	364-16 ūʌ1ʌ	strong
	[žada- R	to spread
	350-9 ūonč'ʌ	insect
	359-3 ūʌrʌ	to spread
INITIAL VOWELS (NOT IN <i>NOSTRATIC DICTIONARY</i>)		
[137	372-4 [aɪ R {Faɪʌ}	over / across
[104	354-7 [alka- U {Haɪʌ}	fore
[126	/a/rbʌ {?arba}	to practice witchcraft
	359-1 [a/rd/- K	early (?)
[127	352-7 [asa- R {?aSa}	fire
[131	341-13 e1ʌ {?e1R}	to live
[133	371-4 [em- IE {?Emʌ}	to seize
[106	352-9 [enkʌ U	fire
[116	355-6 [er- IE {Horä}	to raise (rise)
[107	359-2 erʌ {Herä}	to fall to pieces
[108	362-14 erʌ {Herä}	male
[132	333-1 ešʌ {?esR}	to be
[136	340-7 [idä- R {?itä}	to eat
[112	368-9 /i/rʌ {Hirä}	to drag
	359-8 [itä- U	to grow
[102	367-11 [ō- R {Ha}	to come

N.Dict.	I-S('67)	Word	Meaning
[120?	367-3	[oðə- U	to sleep
[117	373-10	[okša U {Hosʌ}	ash-tree
[113	353-4	[oky R	point
[124	370-14	[oma U {?amu}	morning
[114	350-3	om/c'/ʌ {Homsa}	meat
[105	371-12	ongʌ {Hanga}	jaw
[138	354-1	[ube- K {ŋ/e/bU}	bosom
	362-6	[u/ń/a R	tame
	337-13	urʌ	to burn
[119	334-6	[uwa U {Huwa}	water

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